# Antiquity

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## Editorial Notes

WE make no apology for directing the attention of our readers once more to the new periodical *Ancient India*, for the second number, which has recently reached us, contains the account of an excavation of such surpassing interest for archaeologists and historians that the news of it should be spread widely as soon as possible. In the summer of last year the Director General of Antiquities for India, Dr Mortimer Wheeler, undertook a short excavation (between April and June) at a site (called Arikamedu) some two miles south of Pondicherry, where the remains of walls projecting from the cliffs above a lagoon and some previously reported Roman finds promised well. The results have been quite sensational.

The walls proved to be those of two buildings, apparently warehouses, which had been occupied and used during the first two centuries of our era, and had undergone extensive alterations and remodelling in the course of that occupation : in one structure was a well, and in the other a tank which could have been used for the dyeing of muslins. Although no Roman coins were discovered, a great quantity of Roman imported ware and of native ware came to light on the lower levels, in addition to a number of Graeco-Roman *amphorae* and two fragments of Graeco-Roman glass. More fortunate still the pottery was of that red lustrous type commonly termed Arretine ware, and this serves to date the strata and the associated native pottery with a considerable degree of precision. Arretine ware is well known : it began to be fashionable after 50 B.C., rose to its height under the reign of Augustus, and the first fifteen years or so of Tiberius, and was then displaced in popular favour by the cheaper wares which some enterprising potters began to put out from new kilns in the south of Gaul. Thus, by a piece of singular good fortune, early south Indian ware receives a close and precise dating from the Western pottery—for the influx of Arretine ware can hardly have begun until the advent of Augustus and the 'Augustan Peace' had encouraged the resumption of trade with India on a large scale (say after 30 B.C.), and it is unlikely that importation would have gone on for more than a couple of decades after the ware had fallen out of fashion in the West. It is in fact reasonable and safe to assign the strata in which Arretine occurs to a period of 75 years lying between 25 B.C. and A.D. 50, with a slight margin at either end. This complete synchronistic linkage between Western and Indian pottery renders possible a precise chronological dating for Indian finds, and archaeologically speaking is perhaps the most important and promising result of Dr Wheeler's brilliantly conducted dig.

But there is another result of engrossing interest for the history of trade-relations between the East and the West, or at any rate between the Roman Empire and India. These finds throw a new and clear beam of light on those relations during the early

Empire, for while they support the literary evidence for the great volume of trade that went India-wards from the time of Augustus, they also suggest that direct trade had extended beyond Cape Comorin long before the first half of the first century was concluded. The author of the *Periplus* (a sort of sailing directions for India), who can be certainly dated between A.D. 40 and 70, does not appear to have got further than the towns of Muziris and Nelcynda on the Malabar Coast, though he has information from others who had rounded Cape Comorin. But it is difficult to believe that the large number of sherds found on the site do not represent direct traffic in Graeco-Roman bottoms; on that hypothesis some Western merchants were already bringing back muslins from the Pondicherry region by 50 or thereabouts. On the other hand the admirable distribution map of Coin-finds, which Dr Mortimer Wheeler has affixed to his account, presents the reader with clear evidence that the bulk of the traffic down to A.D. 50 was still with the Malabar Coast, where Muziris and Nelcynda lay. The overwhelming majority of the coins found are of Augustus and Tiberius, and the sites of the finds are nearly all in the Coimbatore district, the great beryl-producing region.

Thus the archaeological evidence points cumulatively to intense commerce during the first century of the Empire, thereby backing up the statement of Strabo that from one Red Sea port alone as many as 120 vessels might set sail in *any* one year. That commerce must have been mainly in luxury articles—precious and semi-precious stones, spices, drugs, and muslins—for which the West had to pay heavily in its own gold and silver. What also seems to emerge from a study of the maps is a gradual falling-off in the period after Nero, when the frugal-minded Vespasian was ruling, and retrenchment and economy were the order of the day, though the fact that his son Domitian built the great pepper-warehouses at Rome (*Horrea Piperataria*) should incline us to caution. Yet though trade may have diminished in bulk the traders lacked neither courage nor enterprise: they steadily extended their voyages Eastward until by the second quarter of the second century Roman merchants had actually touched a port in China.

But such a topic takes us far beyond this brilliant discovery of Dr Mortimer Wheeler. While we congratulate him we must also greedily ask for more, and hope that workers in kindred fields will add their efforts too. For example, will not the Director General turn his attention to the Malabar Coast, where carefully planned digging might produce a rich harvest, perhaps even the site of that TEMPLUM AUGUSTI that the Peutinger Map marks; perhaps more pottery and coins, to establish a firm chronology; perhaps tombstones and dedications that would tell us more about the nationality, speech and life of the traders who resided in the various *commercia* (to use Pliny's term). We may ask for more information from the French *École d'Extrême Orient*; discoveries of a Graeco-Roman lamp in Siam, and of Antonine coins in Cochin China have already been made, and we may expect still more finds that will disclose the Eastward expansion of Roman trade during the second century. Perhaps too some scholar will undertake an up-to-date classification and cataloguing of the Roman coins found in China, together with a Distribution Map, for that would reveal much. Lastly, East Africa may have something to contribute.

It would be ungracious to close this notice on a set of demands and expectations when so much has already been achieved. Let us end as we began with a salute to the discrimination, enterprise and good fortune of the Director General: Arikamedu will probably in the future be included in the short but honourable list of excavations which begin a new epoch in discovery. Were we Romans there would by now be standing an altar VIRTVTI RECTORIS ET BONO EVENTVI.

# 55 B.C. and 54 B.C.

by C. E. Stevens

THE Year 1946 is the Two Thousandth Anniversary of the first *historical* event in our Island Story, the first Invasion of Julius Caesar; 1947 that of the first appearance of the first British personality, the first man in England whose name we know, Cassivellaunus. It is fitting, therefore, that Antiquity should choose the turn of the years for its own discussion of England's first ' bimillenary '.

The Invasions have suffered not a little at the hands of historians, through being ' nobody's business '. The writers of English history are not concerned with their background in Roman politics, while to Roman historians they are a short and comparatively unimportant episode in the life of the greatest man of the age. There is thus after all these years much new that can be said, which shall be, I trust, also true; and in studying the Invasions I shall concentrate on the ' new '—which is mainly an answer to the question ' why Caesar did it '? ' What Caesar did ', we can learn from Caesar, and after the work of his modern commentators, Rice Holmes and Collingwood, there is not much left for their successors to say.

Consul in 59 B.C. at the age of 42, C. Julius Caesar had achieved power by his skill in manipulating the opinion of the Roman mob; and this power he offered to Pompey, the brilliant conqueror of the East, and Crassus, the millionaire, to form the First Triumvirate. But history could teach Caesar that his own ambition and any statesmanlike scheme for replacing the effete senatorial oligarchy with whom world-power resided could only be furthered by obtaining for himself a long-term military command. Accordingly in the face of senatorial opposition he procured a five-year command in Cisalpine Gaul (north Italy) with Dalmatia and Illyricum. Cisalpine Gaul was dangerously near to Rome, and adventurers (including Caesar) had used or tried to use it in the past as a base for anti-senatorial manoeuvres. The Senate, therefore, seemingly on its own initiative, added Transalpine Gaul (Provence) to his command, probably with some rather vague mandate to pacify all Gaul for good and apparently with the proviso that the command should cease when the job was done, even if it was done before the five-year term had elapsed (1). Transalpine Gaul had been a grave of many reputations and there is actual evidence that many senators hoped that Caesar would discredit himself there—or die (2). That Caesar came to Britain at all seems, therefore, to have been the consequence of a hostile intrigue—which did not come off.

For Caesar not only solved the immediate problems, but in two years had received the submission of virtually the whole of Gaul and could write of its ' complete pacification '. His enemies would thus have a case for invoking the proviso and recalling this dangerous man before he had obtained the absolute devotion of his old troops, before he had enrolled new ones, before he had made too much money—and before he could legally proceed to another consulship and avoid prosecution. And we know that at

[1] Balsdon, *J.R.S.*, xxix, 73 and 170, developing a suggestion of mine in *American Journal of Philology*, lix, 176.

[2] *B.G.*, i, 44, 2.

the beginning of 56 B.C. his enemies were taking this line (3). It was necessary for Caesar to find something to do; and his answer to the hostile manoeuvres in Rome was—Britain. For there is evidence (not from Caesar, the *Bellum Gallicum* is very reticent on what did *not* happen) that Caesar was meditating invasion as early as the spring of 56 B.C. (4). This induced the Veneti of Brittany, who held most of the trade with Britain in their hands, to revolt, and the revolt, it is instructive to learn, was supported by their immediate neighbours, but also by the Morini and Menapii of the 'Channel ports'. Moreover reinforcements were sent from Britain (5).

Now a case could be made for asserting that a mandate 'to pacify Gaul' could be stretched to include the conquest of Britain, and in the only explanation of his reasons for invading which Caesar gives, he makes that case. He realised, he says, that 'in almost all the Gallic wars, help had been supplied from Britain to our enemies' (6). He might have said, in modern jargon, that the Channel was not an 'ethnic frontier'.

Such a direct justification of the Invasion is, however, the product of a later time, when the *Bellum Gallicum* was published. At the time of the Conference of Lucca (April, 56 B.C.), at which Caesar obtained from his confederates the promise of a further five-year tenure of his Gallic command, invasion of Britain in that year was certainly 'off'; and while the word 'Britain' may have been spoken behind the scenes, it was certainly not mentioned in the official pronouncements. The official picture is of an extended command to complete the pacification of Gaul, for 'mopping-up operations' inside Gaul, and the language of Cicero makes it clear that this was all *he* thought it was (7). This is not surprising, for, if the general whose official province ended at Vienne was openly proposing to conduct new conquests more than 500 miles away, outside the 'orbis terrarum' altogether, which, as we shall see, was what Britain was, Roman public opinion and even Caesar's confederates might not have swallowed it. Nevertheless it is difficult to believe that with a tenure of office now prolonged up to 50 B.C. at least (always provided that there was still a job to do in 'pacifying Gaul (8)'), with seven campaigning seasons, that is, Caesar himself was only thinking of 'mopping up operations' and had not the invasion of Britain, postponed from this year, in his own mind. For the mandate to finish the job in Gaul did carry that ambiguity; it might not cover Britain—but it might.

The remainder of 56 B.C. was occupied with the suppression of the revolt and the rounding off of the conquest of Gaul by the subjugation of the non-Celtic south-west. The greater part of 55 B.C. (in which year Caesar actually obtained the five-year prolongation promised him) was taken up with a campaign against invading Germans and a punitive expedition (carefully described by Caesar as such (9); no doctrine of 'ethnic frontiers' could bring a conquest of Germany inside the mandate) across the Rhine. Not till August 26th was Caesar ready to mount an expedition against Britain, and then he took only two out of his eight legions in eighty ships. There is no need to retell the story of the first invasion; Caesar spent about three weeks in south-east Kent, and owing to an insufficiently respectful attitude to Channel tides, was lucky to have a fleet to bring

[3] Suetonius, *Divus Julius*, 24, 1.

[4] Strabo, IV, 4, 1, p. 194.

[5] See the list of allies in *B.G.*, III, 9, 10.

[6] *B.G.*, IV, 20, 2; cf. II, 4, 7; 14, 4; V, 12, 2 (Channel not on 'the frontier').

[7] *De Prov. Cons.*, 12, 29; 14, 34; *Pro Balbo*, 28, 64.

[8] See Balsdon and Stevens, *l.c.* We need not worry here what exact day was fixed for the end of the command, if there was one.

[9] *B.G.*, IV, 19, 4.

him home. Nor is it likely that in any event he could have done much more with the small force in the limited time available.

There is something rather mysterious about this first Invasion. Caesar's own explanation is simply that he ' wanted to have a look at Britain ' (**10**), and it has been remarked that the whole narrative has rather an apologetic air. It may be possible, however, to find motives which it would have been hardly desirable to mention in the *Bellum Gallicum*. Caesar's mandate, I have tried to show, was ambiguous ; it might be regarded as connoting permission to conquer Britain or it might not ; if it did not, an invasion was illegal and might eventually give grounds for a prosecution, and Caesar with his eye on public opinion was always anxious to have a cloak of legality for his acts. Perhaps, then, we might regard the first Invasion as an attempt to gauge public opinion without too much risk. And there may be more. Cicero remarks, à propos of the first expedition, that ' there is now known to be not an ounce of silver in Britain ' (**11**), an observation which seems to carry the expectation that there really would be some. Cicero was wrong, of course ; in the next century Britain's mineral wealth was described as an inducement to conquest (**12**). Caesar simply did not get nearly far enough to find it, but it looks as though he had hopes. If we interpret the expedition as a treasure hunt into the bargain, then Caesar could dangle a bait for the acceptance of a full-scale invasion in the future ; and if the bait were not accepted, the treasure, anyway, would be there.

If the Invasion failed as a looting expedition, it had an incredible propaganda success. Britain just seems to have gone to people's heads in Rome. For this three-weeks' reconnaissance, the Senate—in which Caesar's enemies were prominent—voted with but one dissentient voice, that of Cato, a thanksgiving of twenty days, the longest ever awarded to any Roman general in history (**13**). Such enthusiasm demands an explanation which may be given on these lines. Ancient geography, developing ideas as old as Homer, represented the *orbis terrarum* as surrounded by the tidal Oceanus, and this doctrine was strongly advocated by the contemporary leader of the Stoicism to which most prominent Romans conformed, Posidonius of Apamea (**14**). Now Britain was an island in Oceanus (the Straits of Dover are tidal and so part of it) and thus outside the *orbis terrarum* altogether (**15**). This was the first time in recorded history that a general had taken an army across Oceanus and brought it back again (defying Oceanus' special weapon, the tide, into the bargain). It was epoch-making, not, of course, in degree, but in kind, like the news of the voyage of Columbus. We can understand the enthusiasm—but so could Caesar, who seems to have played up Oceanus a good deal more in his despatches (**16**)

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[10] *B.G.*, IV, 20, 2. [11] *Att.*, IV, 16, 7 ; *Fam.*, VII, 7, 1.

[12] Tacitus, *Agricola*, 12, 6. The observation gains point if Dr Smythe is right in asserting that pigs of lead stamped EX ARG have not been ' desilverized ' but have actually come from *silver mines*. (*Trans. Newcomen Soc.*, XX, 139).

[13] *B.G.*, IV, 38, 5 ; Plutarch, *Cato minor*, 51, 1 (muddled).

[14] See Berger, *Erdkunde der Griechen*, 568.

[15] To the authorities cited in the next note may be added as a selection :—ps.-Aristotle, *De Mundo*, 3, p. 393 ; Virgil, *Ecl.*, 1, 67 ; Tacitus, *Agricola*, 15, 4 ; Claudian, *De Cons. Stilicho.*, 148.

[16] Lucan, II, 571 (' Oceanumque vocans incerti stagna profundi ') can hardly be referring to the one bald and casual mention of Oceanus in the *Bellum Gallicum* (IV, 29, 1). All the secondary authorities (deriving from Livy, who may well have used Caesar's despatches) play up the ' Oceanus angle ' with reference to the first expedition ; see especially Plutarch, *Caesar*, 23, 2. Interesting parallels are references to Oceanus in panegyrics on Claudius's invasions (*Anth. Lat.*, 419–26) and Claudius's own words (*ILS* 212, ' iactationem gloriae prolati imperi ultra Oceanum ').

that he subsequently did in the *Bellum Gallicum*, by which time it had to be recognised that the end of this assault on Oceanus was failure. For Caesar it meant that public opinion had endorsed the wide interpretation of the mandate, so that he could go ahead with his plans for a serious invasion. Indeed, that he was waiting for such an endorsement may perhaps be inferred from the fact that though there was a fleet of 600 vessels to be built and Caesar pressed his men for speedy work to get the invasion started in good time, preparations were not actually set in motion until the new year (54 B.C.) (**17**). Contrary winds, however (there is a certain sameness in cross-Channel invasions throughout the ages), delayed the start until the beginning of July. This time the force embarked was a large one, over half the infantry at Caesar's disposal (five legions out of eight—one more than Claudius used a century later) and half the cavalry. And, compared with the year before, there were probably only a third as many soldiers per ship, so that much space was left for stores and gear going out—and for captives on return journeys. It looks as though conquest was intended this time, and Caesar drops a hint that he meant to winter in the island (**18**).

Again, I do not propose to retell the story of the expedition (**19**). It is sufficient to remark that, as in Gaul, Caesar took full advantage of native dissensions, which in Britain crystallized around the opposition between the recently arrived invaders, the Belgae, and the earlier inhabitants (**20**). The Britons (or more truly, the Belgae) were most ably led by Cassivellaunus of the Catuvellauni (Hertfordshire), who has claims to be considered the most capable barbarian general that Caesar met in the field. It is interesting to note that, admittedly on a much smaller scale, he succeeded precisely where Vercingetorix failed, in imposing on an undisciplined barbarian confederacy the policy of ' scorched earth ', the only hope of success against Roman legions. Nevertheless Caesar was able to force his way over the Thames (**21**) and to end the campaigning season with the capture of Cassivellaunus' capital (presumably Wheathamstead). To subdue in one season (and that a shortened one with trouble again from the tides as well) the most civilized confederacy of Britain was satisfactory progress—Plautius did no more in his first season. With five legions in superb confidence and discipline, subordinate commanders of great ability and Caesar's master hand directing all, conquest at least of the whole ' lowland zone ' in the four years at his disposal was reasonable hope. Again, with one legion less, Plautius was to achieve nearly if not quite as much.

But it was not to be. There was a risk in leaving even a ' pacified Gaul ' behind him, a risk which Caesar recognised (**22**) : there had been ominous disturbances on the eve of sailing, and now the risk had become a reality. Caesar felt that he must rejoin

[17] *B.G.*, v, 1, 1 ; 2, 2.

[18] *B.G.*, v, 22, 4.

[19] But I cannot resist reminding the Senior Editor of the scorn which he poured in his younger days upon minute disputation over Caesar's landing-place and the like (*Man and his Past*, 55).

[20] Dunning and Hawkes, *Arch. Journ.*, LXXXVII, 256. Possibly the speed with which Caesar reached the Thames is also due to the fact that west of the Medway the country was not inhabited by (though it may have been ruled by) the Belgae. See Ward-Perkins in *Arch. Cant.*, LI, 169.

[21] The late G. Lawrence, who knew more than any man about finds from the Thames bed, assured me in conversation that Montagu Sharpe's Brentford stakes were medieval and that from the incidence of dredged finds he was convinced that the La Tène (and hence also Caesar's) crossing was in the vicinity of Wandsworth. That there really was a—probably—early Roman crossing at Westminster (in spite of Haverfield's scepticism) has been demonstrated by the wonderful (and neglected) field-work of Davis (*Surrey Arch. Coll.*, XLIII, 76).

[22] *B.G.*, v, 5, 4.

his forces in Gaul while navigation was still practicable. He suggested, it seems, to Cassivellaunus that a surrender would receive considerate terms, imposed a tribute and left the island for good. If he had come to Britain ' for something to do ' because Gaul was pacified, he was to have plenty to do now in Gaul itself. The star of Vercingetorix was coming over the horizon ; and when his enemies next advanced the argument that he must surrender his command because the job was done (51 B.C.) (23), the background is Alesia and Uxellodunum, no more the English Channel.

To the staff officers such as Q. Cicero, who had seen in the expedition ' nothing to be frightened of, but nothing to be proud about ', matters were clear enough ; Britain had been ' finished off ', hostages had been taken (so that presumably no more Britons—or at least no more Belgae—would assist their kinsmen on the Continent), there was no booty, but a money payment had been imposed, and now they were coming home (24). Nevertheless, it is difficult to believe that Caesar was so content, and there is no such language of satisfaction at a job completed from *him*. Indeed, while obviously in the *Bellum Gallicum* he is making the best possible case for the campaign, there are hints in it that he was hoping at the time for something rather more tangible out of what he had actually done ; it is possible, moreover, that he had designs, in the four years still at his disposal, of coming to Britain again. Caesar records that he received the ' deditio ' not only of Cassivellaunus and the smaller Belgic tribes, but of the Trinovantes, whose king had brought himself ' in fidem Caesaris '. Moreover, he adds that he settled what tax (' vectigal ') Britain (' Britannia ', i.e. not merely certain British tribes) should pay to the ' populus Romanus '. The expressions are thoroughly technical. Caesar, as an executive commander, was entitled to make that form of treaty comprising unconditional surrender known as a ' deditio ' ; the inhabitants of the area subdued become ' dediticii ', their land comes under the ' dominium ' of the Roman people and is thus liable to a tax (25). Britain, juridically, is like Gaul after the ' pacification ' of 57 B.C., a *provisional* Roman province, so that Diodorus, writing a short time after Caesar's death, can speak of its incorporation into the Roman ' hegemony ' (i.e. Empire) (26). There is reason to believe that Livy was using the same language about Britain a few years later ; indeed, it is tempting to see here a conscious propaganda in favour of an annexation policy on the part of Augustus, a policy so often expected by contemporaries but never carried out (27).

The position of these British communities which were ' dediticii ' was provisional, but the provisional would normally harden into the actual with the ratification of Caesar's arrangements by the Senate, and the despatch of a senatorial commission which would bring the area ' in formam provinciae ' under a Roman governor (who would not necessarily be Caesar). British kings in the provincial area would disappear according

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[23] Suetonius, *Divus Julius*, 28, 2.

[24] *Q. fr.*, III, 1, 10 ; *Att.*, IV, 17, 3 (' confecta Britannia ').

[25] On the constitutional position of ' deditio ' and ' dediticii ', see Mommsen, *Staatsrecht*, I, 246–57 ; II, 692 ; III, 716–31 ; 1158–73.

[26] I, 4, 7 ; III, 38, 3.

[27] Livy, *Epitome*, CV. (' in potestatem '—technical) and Livy's closest copyist, Eutropius, VI, 17, 3 (' stipendiarios fecit '—also technical). It looks as though the second century epitomiser, Florus (I, 45, 19 ' non enim provinciae sed nomini studebatur '), was deliberately refuting Livy. Claudius himself seems consciously to have refuted the view that Caesar had done anything before him towards making Britain a province (*ILS* 216, ' . . . quod . . . gentes b[arbaras trans Oceanum] *primus* in dici[onem populi Romani redegerit] '.) How like Claudius this would be!

to the constitutional practice of the republic; and if any were retained, it would mean that from their 'deditio' would issue a treaty negotiated through the senate or its commissioners, maintaining them as 'client kings' in treaty relations with the Roman state. Perhaps this future was designed for Mandubracius, king of the Trinovantes, for a 'deditio' made by a state whose ruler comes under the protection ('in fidem') of the conqueror, tended to carry the implication that it would probably come eventually into treaty relations as a client rather than under the complete dominance of Rome (28).

There is much to suggest that some such arrangements were in Caesar's mind; but they would, of course, need another visit. Nevertheless the solution of the Gallic problems demanded so much of his time that when it was finally effected, the imminence of civil war made any consideration of Britain quite out of the question. In 51 B.C. Gaul was officially declared a province from 'mare nostrum' to Oceanus—but no further (29). Of Britain there is not a word. The provisional had not become actual; it is the final confession of failure in Britain.

That the provisional arrangements of a conqueror should thus remain 'in the air' seems actually something unprecedented in the whole course of Roman history (and gives us, incidentally, a measure of how great Caesar's failure in Britain was); the actual constitutional position of these British chiefs is consequently most difficult to define. Perhaps with the failure to introduce formal provincial arrangements, the obligation to pay a tax to the Roman People was regarded as lapsing. If treaty relationships existed with British kings, these would certainly lapse on their demise, according to Roman constitutional law (30), and fresh treaties would have to be made with their successors, if Rome were still to treat Caesar's arrangements seriously. In any case, it is clear that under Augustus, in the next generation, that is, British kings were paying no tribute, and it is quite obvious that their failure to pay was not regarded as a breach of treaty justifying invasion when it did take place (31). Moreover the other article of surrender of which we hear, the obligation laid on Cassivellaunus to refrain from attack on the Trinovantes, clearly did not survive to his successors. Coin evidence hints, indeed, that a rectification of frontier in favour of the Trinovantes may have occurred; but it proves outright that a successor of Cassivellaunus, Tasciovanus, was actually for a short period in occupation of the Trinovantian capital, Camulodunum, and minting coins there (32). The impermanence of Caesar's arrangements could hardly be more completely demonstrated. All that can fairly be said is that the failure was Caesar's own decision, Britain was sacrificed to 'higher priorities'; moreover it had pointed the road to success. In very truth, as Tacitus observed, Britain had rather been shown to posterity than annexed (33). Provided that sufficient troops and time were available, provided that the continental base was secure, conquest of Britain was a practicable proposition. But it was a century before Roman statesmen felt that these conditions were truly fulfilled.

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[28] Mommsen, *Staatsrecht*, III, 65.

[29] Suetonius, *Divus Julius*, 25, 1; Eutropius, VI, 17, 3; Sallust, *Hist.*, Fr. 1, 11 (date).

[30] Mommsen, *Staatsrecht*, III, 594.

[31] This is quite clear from the accounts of the Claudian invasion and its motives, as well as from *ILS* 216 (see note above), which is hardly consistent with pre-existing treaty arrangements.

[32] Allen, *Archaeologia*, XC, 15–17.

[33] *Agricola*, 13, 2. There Tacitus implicitly criticizes the 'Livian' theory—he knows Livy's account, of course (ib. 10, 3).

If we are right then, the principal motive for the Invasions derives from the political situation in the City of Rome ; it was first and foremost Caesar's desire to have ' something to do ' so that his enemies might have no grounds for pressing for his recall before he was ready to come. It is a motive not flattering to island pride ; nevertheless it is not the only time in history when Britain has been a pawn in continental intrigues. And, above all, with a man of Caesar's stature it cannot be the whole truth. To Britain he may have come ' for something to do ' ; but we may be sure that he would have made the best of whatever he did. It was not only that Britain's wealth would have been exploited in slaves, if not in treasure, as was the wealth of Gaul, for Caesar's political ends : Caesar's great mind, we know, transcended the narrow bounds of Roman, of ' Herrenvolk ', patriotism. He understood that the Gauls whom he had conquered had greater potentialities than mere ' hewers of wood and drawers of water ' for the ' Senatus Populusque Romanus ' ; it may well be that he would have understood that in the World State of which he was dreaming, Britons too had their part to play. The secretary Britannus, who has introduced Caesar's British connexion to a yet wider audience, may be yet another proof of the deep historical sense of his creator.

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## LEEDS

We much regret that some errors appeared in our last number in the article on Leeds by Professor Kenneth Jackson, who did not see proofs.

At the end of the first paragraph ' by the thirteenth century *Lĕdës* ' should read ' by the end of the thirteenth century *Lēdës* ', with a cedilla under the first ' e '.

The beginning of the third paragraph should read ' the best way to account for Bede's *oi* is to take it as *ōi* '.

The phrase ' in late British respectively *Lōdēses* and **Lōðeses* ' should read ' in late British respectively *Lōdēses and *Lōðēses ', with cedillas under the ' o ' in every case.

Unfortunately shortage of type makes it still impossible to print the ' e ' and ' o ' with the cedilla.

# Christian Nubia: a review

by O. G. S. Crawford

Storia della Nubia Cristiana, by Ugo Monneret de Villard. (Orientalia Cristiana Analecta 118). Pont. Institutum Orientalium Studiorum, Piazza Santa Maria Maggiore 7, Roma 4.*

It is often forgotten that for nearly a thousand years Christianity was the official religion of the greater portion of the middle Nile basin. Until quite recently the history of this vast region was little known; but the work of Griffith, Reisner, Crowfoot, the author of this book and other archaeologists has gradually brought to light enough facts to justify an attempt to set them in historical order. This book is the first such attempt, apart from one or two articles in inaccessible publications (1); it is by one who has already earned the gratitude of students by his splendid Corpus (2) of antiquities of medieval Nubia, based upon an intimate knowledge of the country and its language and monuments. It should be said at once that it is a very good book. The style is clear and the subject-matter well arranged; the background is illustrated by a series of really excellent (because austere) outline-maps, and it is obvious that the writer thinks geographically—a rare but welcome accomplishment, particularly in this field. The book is beautifully printed in pleasing legible type, and the Pontifical Institute is to be congratulated on the production of a work of scholarship of the first rank.

It will be useful, we think, to give here a fairly full summary of its contents, for although it is still in print and obtainable through a bookseller, there is at present nothing in English that covers the same ground.

Chapter I deals with the Roman occupation of Nubia. The first contact between Rome and the region south of the 1st (Aswan) cataract was in 29 B.C. and our knowledge of it is derived from a trilingual inscription found at Philae. It records an agreement between the prefect Cornelius Gallus and the Ethiopian ruler of the Triakontaschoinos, that part of the Nile Valley which extended above and below the 2nd cataract at Wadi Halfa. It is to be presumed that the intervening province (the Dodekaschoinos) was then Roman, and the southern boundary of the Roman Empire fixed at a point some 70 miles south of Aswan.

When the Roman garrisons were weakened a few years later the Ethiopians attacked them and got through to the 1st cataract; they captured a bronze statue of the Emperor Augustus and carried it off to Meroe, where its head was eventually found by Professor Garstang. Petronius (prefect 25–21 B.C.) led a punitive expedition which penetrated as far as Napata, the old Ethiopian capital above Dongola. He sacked the town, but the ruler, the one-eyed Candace—a title and not a proper name (3)—escaped to a neighbouring castle and refused to treat. Petronius had therefore to return and the expedition was

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*Published 1938. Present price £1.

[1] e.g. *Die Christliche Zeit Nubiens und des Sudans*, by Günther Roeder. Zeitschrift für Kirchengeschichte XXIII (Gotha, 1912), 364–98.

[2] *La Nubia medioevale*: two volumes fully illustrated; published in 1935 by the Service des Antiquités de l'Egypte. Two others were announced as forthcoming in 1938, but so far as I know they have not yet appeared. Their publication is much to be desired.

[3] Her name seems to have been Mnir'ns.

a failure. The story is told by Strabo, and it is most tantalizing that the Ethiopian version recorded on a stele at Meroe, cannot yet be deciphered, with the exception of a few proper names (4).

Chapter III deals with the Blemy, those tiresome nomads of the eastern desert who complicated the already sufficiently obscure story by invading and settling in the Nile valley above Aswan. Their later history (*c.* A.D. 300–550) is discussed in chapter IV. The author rejects Reisner's date (340–55) for the last king of Meroe and the end of that kingdom, following Conti Rossini in attributing the conquest of Meroe to one of Ezana's predecessors. Ezana, the king of Axum (A.D. 317–42), makes no mention of Meroe, though his army must certainly have passed it in their march up stream to Alwa and Daro on the Blue Nile. We fancy that he has been regarded as the destroyer of Meroe chiefly because of his well known inscription at Axum, whose survival is of course merely an accident. Our author places the destruction of Meroe ' agli albori del IV secolo o forse gia anche alla fine del III '. The date is crucial for archaeologists, giving as it does the boundary-line between the Meroitic and post-Meroitic periods. We admit the force of the argument, which is not new, but the opinion of an archaeologist of Reisner's standing and calibre is not to be curtly dismissed in a footnote.

Ezana established his headquarters at the confluence of the Atbara and Nile, whence he captured the walled towns (or castles ?) of Tabito and Fertoti (which I would suggest may perhaps have been near the present Dongola–Berber boundary, where are the islands of Tibet and Birti). The town of Daro is the Daron of Pliny and Ptolemy, and the site may well be that of the ' remains of unhewn stone ' which Linant de Bellefonds (5) observed near the mouth of the Rahad. (My reasons for this identification will be stated more fully elsewhere).

Professor Monneret de Villard discusses the chronology of the cemetery of Meroe which he regards as ' esattamonte l'inversa di quanto ha creduto il Garstang ', whose joint publication, with others, of the results of the excavation is severely criticized.

Chapter V deals with the expulsion of the Blemmyes or Blemy from the Nile valley and the conversion of the Nobades to Christianity. The Blemy had settled in Nubia between Primis (Ibrim) and Teleleos (Shellal, i.e. Aswan). The king of the Nobades, who occupied the next region to the south, was converted by a mission led by Theodore, bishop of Philae, and a priest Julian, between 542 and 545. The heathen temple of Isis had been closed just before (536–43); and the author, associating these events, assigns to this period the conquests of Silko, basiliskos of the Nobades, which are recorded in the well-known inscription of that king. Thus a consistent story emerges with greater precision added to the already accepted chronology. One may add the query—Is Silko to be identified with the Salha whom El Aswani calls the ' forefather of the Noubas ' ? (6)

The first part of Chapter VI is concerned with theological matters, relating to sectarian differences. In 569 another mission was despatched to Nubia, led by Longinus, who converted the Garamantes and Maccuritae. The Garamantes are located in the Bayuda desert, later called the desert of Goran, Gorhan or Gorham. We admit some doubt about the connexion of these two names. That the desert of Goran was the Bayuda is quite likely ; the name is, I think, certainly to be identified with Juba's Goram,

[4] Amongst these is a ruler Kinidd. Is this name preserved in the place-name Kindin-Kalo recorded on Cailliaud's map, 4 miles above Semneh ?

[5] Journ. R. Geogr. Soc. II, 1832, 188.

[6] Burckhardt, *Travels in Nubia*, 497. In Burckhardt's original manuscript of this translation which differs considerably from the printed version, the name is written Silha : Papers of Burckhardt, British Museum, 30, 240A, fol. 30 v.

recorded by Pliny ; and it may still survive in that of Jura Wells (Cailliaud's Djiora) between Merowe and the 5th cataract. But it is a far cry from here to the Garamantes of Libya. The Maccuritae, on the other hand, are quite certainly the people of Macouria (the Mukurrah of Arab writers) who, according to our author, occupied the Nile valley between Akasha and Dongola. About ten years later, in response to requests from the king, Longinus went to Alwa (Soba) where he found Aksumites, followers of Julian of Halicarnassus, thus indicating that Christianity had already reached Alwa by way of Axum i.e. Abyssinia. This point, overlooked by previous writers, is of great interest, as our author says : but the official conversion of the southern kingdom came undoubtedly from the north.

The first contacts between the Arab conquerors of Egypt and the Ethiopian kingdoms (Chapter VII) began in 641, and consisted of raids, culminating in an attack on Dongola in 651–2, when the church was injured by artillery-fire. But the Arabs found the Nubians much stouter opponents than the impoverished Byzantine garrisons of Egypt, and they failed to subdue them. A treaty was made, as a result of which there was an annual exchange of goods, called the *baqt*. Mussulman historians have pretended that this was tribute exacted from a conquered enemy ; but our author maintains, quite rightly we think, that it was nothing of the kind, and just a commercial agreement between equals, as the name itself (baqt=πακτον) implies. The frontier of Egypt was fixed at Aswan.

There were at this time two independent kingdoms, of the Nobades and Macurites, which were not united until some 50 years later. The unification appears to have occurred between 690–693, when the king of Maurotania (i.e. according to our author, of the Nobades) was not at peace with the king of Macouria, and 710 when king Mercurios of Dongola put up an inscription at Taifa, in the northern kingdom. From this it is inferred that in the interval the king of Dongola (Macouria) had conquered the Nobades. Thenceforward Nobatia was a dependency of Macouria and was governed by an Eparch. The rest of Chapter VIII is concerned with theological matters that do not interest us.

The organization (Chapter IX) of the Nubian kingdom was derived, as Crowfoot long ago pointed out, from Byzantium, not, our author thinks, directly, but by way of North Africa. The Nobades and Macurites were, he thinks, western Libyans who formed a ruling class over the native Nubians : he identifies them with the X-group of the Nubian cemeteries, and attributes also to them the tumulus-cemeteries of Ballana, Qostul, Gemma'i, Firket and Wawa, which also have native elements. The word ' Nobades ' has nothing to do with ' Nuba ' or ' Nubia '; the Nobades are the ' Nababes or Nabades ' who lived between Algiers and Biskra, but were driven out by the policy of the Romans, and reached Nubia via Siwa and the oases. For this remarkable trek general causes only are predicted and no direct evidence, apart from the doubtful one of the name, is cited ; frankly, we don't take the theory too seriously. There may, nevertheless, have been Libyan overlords in Nubia.

Chapters X to XIII contain an attempt to reconstruct, from the scanty sources available, the history of Nubia from the 8th to the 11th century. Early in the 9th century there was trouble with the Bega, as the Blemmyes were now called ; and in 831 a treaty was made with Egypt. The Bega sphere was defined as extending from Aswan to the Red Sea (Dahlak and Badi). Their ruler resided at Hagr, tentatively identified by Rossini with the modern Tehagar in the Gash delta, 25 miles north of Kassala. The Bega might enter Egypt for purposes of trade, but only if unarmed. They covenanted not to destroy the mosques at Hagr and Singah, identified by our author with Singat. About the same time the Nubians also had trouble with Egypt over the payment of the

*baqt*, and in 836 George, the son of the king of Nubia, went on an embassy to Baghdad, where he received the magnificent hospitality of the caliph Al Mutasim. At this time Iraq was the centre of the civilized world and immensely wealthy. The capital was situated not on the site of modern Baghdad but 60 miles to the north, near Samarra, where the foundations of the splendid palaces can still be seen, especially from the air, extending 20 miles along the river bank. In respect of material culture Nubia at this time, harried by the Bega raids, was probably on a level with our own country, then being overrun by the Danes. Our Saxon ancestors lived in mud-walled houses exactly comparable to those still built in the Sudan ; and there are no surviving Saxon churches comparable to the once domed cathedral of Dongola.

But the peaceful relations brought about by this embassy did not last very long. Later in the 9th century the lure of gold attracted the Egyptians to the eastern desert ; we have a detailed description of the adventures of one such prospector, Al Omari. He manoeuvred over a large region, reaching southwards as far as the region of Shanqir which is securely located by its contexts in the great bend of the Nile between Korti and Berber. But neither our author nor other students have noticed that the name itself still survives in the Wadi Singeir, Cailliaud's Sonqeyr, which debouches on the Nile at the island of El Usheir above Berber, at the eastern end of the desert crossing from Merowe by Sani and Jura. This identification exactly tallies with Aswani's account which states that it is from the region of Shanqir that the Suakin road departs. It is probably to this period and to this venture that the desert castles of Derehib belong. The gradual penetration of Nubia by Mussulmans is marked by their dated tombstones at Taifa (832), Kalabsha (929), Qirtas (933), Derr (1027, 1137) and by the use of double dating in Christian inscriptions. These discoveries prove that Mussulmans lived peaceably in Nubia, where El Aswani says they had complete freedom ; and there is other evidence to show that Nubians enjoyed the same immunity in Upper Egypt. A colony of Christian Ethiopians was seen near Esna by an Italian in 1630–38. Some of the buildings of the early period in Egypt have Nubian features.

The penetration was not, however, wholly peaceful ; Nubians invaded Egypt and in 962 got as far north as Achmim, and the Nubian influence there may be partly the result of conquest.

Chapters XIV to XVI deal with the geography of Nobatia, Muqurrah (Macouria) and Alwah (Albadia), and are to us the most interesting in the whole book. Nobatia was also called Maris, and was divided into two parts ; the northern called Bilad al Ali is equated with the Dodekaschoinos, and the southern, Bilad al Gebel, with the Triakontontaschoinos, whose southern boundary is placed, on secure geographical grounds, at Akasha (7) where was the customs-post of the Upper Meks and a hot spring mentioned by Abu Salih. The capital of Bilad al Gebel was at Faras where its ruler, the Lord of the Mountain, resided in the time of Abu Salih (who died about 1208) ; he also had two other ' seats ', at Ibrim and Bausaqa, the latter unidentified but near a gold-mine and probably therefore near the debouchment of the Wadi Allagi.

The northern boundary of Muqurrah is stated by Yaqubi to have been at a place called Mawa. Our author quotes Reubeni's Al Mamah and suggests an emendation of Yaqubi, which is quite acceptable ; but he has overlooked the obvious site of his emended name Mamah, namely, Jebel Ferka (called Mama on Burckhardt's map and Mémé on

[7] Akasha derives its name from the tomb of a saint whom Burckhardt who saw the tomb (p. 50) calls Sheikh Okashe. It cannot therefore have any *verbal* connexion with Makrizi's Bastu (spelt in five different ways), nor are we sure that our author does really mean (p. 137) to suggest this.

Cailliaud's) only 17 miles south of Akasha, the southern boundary of Maris-Nobatia. At the foot of Jebel Mama the map marks ' ancient ruins ', and Burckhardt shows five barrows there (**8**). Reubeni's Mama was, according to him, 5 days from Dongola, but he does not actually say that he went there. Instead he reached Al Khabir which I would identify with Abri (called ' Abir or Qabir ' by Lepsius); this was the starting-point of the Selima route, and we know that it was from Al Khabir that Reubeni set out on a forty-five days' desert journey to Girgeh in Egypt. In any case Maam (Aniba) opposite Qasr Ibrim cannot possibly be Reubeni's Mama, as our author suggests, nor did the Fung reach that place then, as he states, or at any other time. (Reubeni states quite definitely that Dongola was the limit of Amara's kingdom in his time, 1523). Cailliaud marks the northern boundary of Sukkot at his Mémé.

A name Do-tauo, which means Lower Do, is on record ; its king claimed suzerainty over other kings. The district was in the north and may have been an alternative, or later, name for Nobatia. The name implies an Upper Do, and Griffith brilliantly suggested that this was Dongola (Do-n-koul). Our author, rather grudgingly it seems, accepts this explanation (' spiegazione, gia in parte accennata dal Griffith ').

Aswani as transmitted by Makrizi is our only authority for the topography of the southern kingdom of Muqurrah, which lay between Nobatia and Alwa. The southern limit of Muqurrah was the principality of El Abwab, the Gates, often mentioned in the times of the Fung and certainly to be identified with a region to the south of the Atbara-Nile confluence. Its prince was, in Aswani's time, tributary to Alwa, but later (in the 13th century) was ruled by a king (Ador). One can have little hesitation in identifying El Abwab with the later kingdom of Al Gal mentioned by Reubeni, subsequently centred at Shendi. This region, or some place within it, will then be equivalent to Tilimauara, mentioned in a 9th century document (**9**) as the southern limit of the realm of John, king of Nubia. The name may survive in Bertul island, perhaps the Tole of Pliny.

The northern part of Muqurrah was divided into the provinces of Saqluda, Baqun and Safad Ba'al or Baql. Saqluda, says Aswani, means the Seven Governors. The second part of the word obviously contains the Kensy word Kolodou, seven (**10**), whilst the first part is the prefix so common in place-names of the Abu Hamed region and to the south of it. Saqluda appears to correspond roughly with Sukkot, Baqun with Mahass and Safad Ba'al or Baql with Dar Gawabra, the northern division of Dongola.

The name El Abwab has been supposed to be derived from the fact that it is at the junction of caravan-routes, but this seems to be rather far fetched. A more likely explanation is that it comes from the presence, at Meroe and elsewhere, of gate-like ruins ; that is the explanation given of a similar name (Biban) attached to Egyptian ruins at Saddenga (**11**). Shendy was the successor of Meroe, and seems to have been a buffer state between Muqurrah and Alwa.

The topography of Alwa is even more obscure than that of Muqurrah. On the Atbara was the tribe of Digiun, probably to be equated with the kingdom of Dequin of the Portuguese narratives, and Bruce's Derkin ; the name survives as Duqein in the

[8] For these see ' The Oxford University Excavations at Firka ', by L. P. Kirwan, O.U.P., 1939.

[9] ' Christian Documents from Nubia ', by F. Ll. Griffith, *Proc. Brit. Acad.* XIV, 16.

[10] Burckhardt, *Travels*, 156.

[11] *Travels in Ethiopia*, by G. A. Hoskins, 1835, 255. The tombs of the Kings at Thebes were called Beban el Malook according to G. Belzoni, *Narrative of Operations and Recent Discoveries*, 2nd ed., 1821, 224.

Gash delta. Denfu, Ary and Befal are unidentified. Befal may, I think, be the small town whose ruins of brick with stone foundations Burckhardt (12) observed between Shendi and Meroe, at the debouchment of the Wadi el Bafalil. The capital of Alwa was Soba, whose site 12 miles above Khartoum is well known. Our author suggests that the name may be derived from a word meaning ' walls ' (*sobé* in the Mahass dialect, *sabé* in the Kensy) and that it may mean ' walled city '. I would prefer a meaning of ' old (i.e. ruined) walls ', for that is a common type of name in all countries (13), and we know that the medieval city of Soba was preceded by a Meroitic one that was destroyed by Ezana. Abu Salih calls it ' the city of Alwah ' ; this cannot be Idrisi's Galwah as our author suggests, because that was below Dongola, and is more likely to have been Halfa.

Another important city of Alwa was Idrisi's Bilak, at the confluence of the Arsinas (identified with the Atbara) and the Nile, where the merchants of Abyssinia and Nubia met and where began the journey to Egypt. This must have been near Berber, and is to be equated with the walled city opposite which Ezana made his headquarters, and set up his throne, and with Ptolemy's Primis Megale.

Other cities of Alwa are mentioned in Vansleb's list of bishoprics—Borra, Gagara, Martin, Banazi, Menkesa. Unfortunately neither Vansleb's original manuscript nor his sources can be identified and it is known that his place-names are elsewhere misspelt. (The name ' Martin ' at once arouses suspicion). Our author regards Arodias as an error for Alodias (i.e. Alodia—Alwa), and he may be right ; but an equation with Cailliaud's Rodess, perhaps Bion's Garode, is possible.

The remaining chapters, which there is not space to summarize, deal with the Nubian church, its political and administrative organisation, and its history from the 12th century to its downfall at the beginning of the 14th century. There is also a list of the kings of Nubia, fragmentary but the first to be compiled, a table of the chief events between 29 B.C. and A.D. 1323 and an excellent index.

NOTE. In the above review several speculative identifications have been made by the reviewer who has tried everywhere to indicate that they are his and not the author's. It is hoped that this preliminary airing may at any rate stimulate criticism, so that any which may be found untenable may be eliminated from a book he has in preparation.

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[12] Travels, 362.

[13] Compare the name Assur (=the Wall) which occurs at Meroe ; Murviedro (' old walls '), the ancient Saguntum, in Spain ; and names of the type Oldbury, Palaikastro, Astypalaea. An exact parallel to Soba would be Wall in Staffordshire, on the site of the Roman Letocetum. The Soba name is common near Roseires, where it is given to ancient sites (*Sudan Notes & Records*, 1930, XIII, 256).

# Aetites or the Eagle-stone

by C. N. Bromehead

An Aetites may be defined as any hollow stone containing loose matter, a smaller stone or sand, which rattles when shaken. Such objects are of little interest to the modern geologist, who usually breaks them open in order to examine the interior for crystals or impressions of fossils. Their importance to the archaeologist and student of folk-lore may be gauged by the fact that they are mentioned by Dioscorides about A.D. 69 and in the fourteenth edition of Quincey's *Pharmacopoeia* (26), published in 1769. A series of at least a hundred references between these dates could be compiled; only those necessary to elucidate the history of the Eagle-stone need be given.

The stone is probably referred to by Theophrastus (*de lapidibus*) (27), the first of the classical mineralogists, when he says that among the greatest marvels is the stone that begets young; but he gives it no name. It is not until the first century A.D. that the Oriental legends connecting the stone with an eagle reached Rome. Dioscorides (8) calls it (v, 160) aetites and defines it as a stone pregnant with another; but as a surgeon he is more interested in its supposed medical properties (see below). Pliny, as a natural-historian gives a full description, which may be quoted (24), since it is the foundation of all later references :—

> 'There are four varieties of the Aetites: that of Africa is soft and diminutive, and contains in the interior—in the bowels as it were—a sweet white argillaceous earth. It is friable and is generally thought to be of the female sex. The male stone, on the other hand, which is found in Arabia, is hard, and similar to a gall-nut in appearance; or else of a reddish hue, with a hard stone in the interior. The third kind is a stone found in the Isle of Cyprus, and resembles those of Africa in appearance, but is larger and flat, while the others are of a globular form: it contains a sand within of a pleasing colour, and mixed with small stones; being so soft itself as to admit of being crushed between the fingers.
>
> 'The fourth variety is known as the Taphiusian aetites, and is found near Leucas, at Taphiusa, a locality which lies to the right as you sail from Ithaca towards Cape Leucas. It is met with in the beds of rivers there, and is white and round: having another stone in the interior, the name given to which is callimus: none of the other varieties of Aetites have a smoother surface than this'.

In XXXVII, 56, he gives the name Cyitis to a stone from Coptos which contains a rattling embryo.

Isidorus (16) in his *Etymologies* gives little more than the distinction between the male and female varieties: the 'sex' of stones is an idea derived from the East; the difference may be, as here, between hard and soft, or, as in sapphire and other gems, between deep and pale colours.

For a more scientific description we may pass at once to the first book on minerals and fossils to be arranged in any logical order and illustrated with figures, the *De Rerum Fossilium, Lapidum, et Gemmarum Maxime, Figuris Liber* of Conrad Gesner (12), published at Zurich in 1565; 'Aetites also . . . are round and numerous, differing in size, colour and substance: of these I show three from my own collection; (1) the

larger, practically round, of the size of an egg, but rounder, with a kind of handle or umbilicus ; (2) is round, much smaller, and again with an umbilicus ; (3) is broad and flat, the surface black, rough and covered with grains of sand, some of which are sparkling '. He mentions a friend who reckoned six species, found in (banks of ?) the Elbe ' When it contains earth it is rightly termed Geodes, Aetites when a stone or sand ; but the distinction is not always observed. If it contains water, it is called Enhydros. It is found in various places in Germany, and in Garganus, a mountain of Apulia . . . the stony nucleus is called callimus '. He then gives four more figures, all nodules ; one, broken open, is full of yellow earth ; one, shown with an iron strike-a-light is a fire stone, or barren (i.e. solid) pyrites.

To his own work Gesner attached several by his personal friends or correspondents. Kentman, a Dresden doctor, had sent him many specimens and a catalogue of his own collection ; in this Aetites comes under the heading *Lapides Variae*, and includes a male, brownish-black and very hard, from Africa ; a female, yellow and soft from Hildesheim ; one like a human head containing ' crystalline fluors ', quadrangular like diamond ; and one ferruginous containing air only. ' Fluor ' was then not confined to what we now call fluor-spar, but included any crystalline substance which melted in the moderate heat which could be applied ; these last two would, as Gesner says, be more correctly called ' geodes '. It is noticeable that Gesner himself discards the distinction between male and female stones ; in any case a pregnant male seems strange !

Aldrovandus, or more accurately Ambrosinus (4), his pupil and literary executor, produced the *Musaeum Metallicum* in 1648 (Aldrovandus died in 1605) : there are, in all, thirty figures of various Aetites, but these include bad copies of Gesner's figures, duly acknowledged but with a curious error. The solid nodule of pyrites, like those common in parts of the chalk in England and sometimes called thunderbolts by the ignorant, has been used as a strike-a-light and Gesner shows the steel striker beside it. Some readers of ANTIQUITY may remember that the badge of the Order of the Golden Fleece was attached to the collar by alternate firestones and steels, the latter known heraldically as *furisons*. Aldrovandus calls the furison Aetites pileosus !

In 1678–9, when Nehemiah Grew (13) made his catalogue of the rarities in the possession of the Royal Society, seventeen specimens of the Eagle-stone were described.

It is clear that the commonest kind of Aetites was an ironstone nodule, hollow, with a loose kernel. Gronovius (14) (probably a grandson of the great classical scholar), who dedicated his *Index of Stones* to Linnaeus in 1750, describes one as ' embryone lapilluloso libero, a topho ochraceo—ferreo constructus '. I collected one from the Northamptonshire ironstone, to which these words exactly apply, last year. The Oxford Dictionary defines the stone as this variety—the particular for the general—and quotes Lyly's *Euphues*, 1636, ' the precious stone Aetites which is found in the filthy nests of eagles '.

Another kind, undoubtedly ' male ' on account of its hardness, is a fossil sponge in flint. Any hollow stone that rattles is legitimately included. I cannot say why the *Mirror of Stones*, published in London in 1750 states that it is ' of a scarlet colour ' ; it is certainly dealing with the true Aetites, which is also called ' praegnans ', having a little stone within it that rattles and adding that there are many varieties from many different localities. The book is a translation from an Italian author, Camillus Leonardus (17) ; the first edition was published in Latin at Venice in 1502.

Quite alien to our subject is the Aetites mentioned by Erasmus (9) in the colloquy on *The Pilgrimage*, 1524, as showing the figure of an eagle with a white tail. I can only suppose this to have been a peculiarly banded agate, or possibly a septarian nodule, like

the Victorian beetle-stone. It is mentioned again by De Laet in 1647, who says it must be distinguished from the real Aetites, which is never a gem.

Some authors maintain that the pregnant stones themselves actually give birth. Pliny (XXXVII, 59) mentions one kind found at Arbela, for which the period between births, during which it rattles, is three months. Adams (2) records statements that the stone bursts with a loud report, which appears to preclude recurrent pregnancy ; that the cry of either ' mother ' or ' child ' can be heard, and that in one place where the stones were specially abundant, people were kept awake at night by the noise—unfortunately he does not give any reference for this last.

Despite the above quotations and many others, it is unlikely that a single specimen labelled ' Aetites ' could be found in any geological museum today. The Eagle-stone has passed into folklore ; no one now believes the myth from which its name is derived, nor the medical and magical properties attributed to it. It is possible that it survives among unsophisticated people somewhere, just as the use of coloured tourmaline to guard young children from accident survives in Austria, but I have not heard of it.

## The Stone and the Eagle

According to Pliny (XXXVI, 39) ' Aetites is found in the nests of eagles as already mentioned in our tenth book (cap. 4, where he says that four out of his six kinds of eagle use the stone). There are always two of these stones found together, they say, a male stone and a female ; and without them, it is said, the various eagles that we have described would be unable to propagate. Hence it is, too, that the young of an eagle are never more than two in number '. The idea certainly came from the east, probably via Alexandria, and was elaborated, either because a fuller version percolated, or through the inventive powers of western writers. At the beginning of the third century Philostratus (23), who was not a naturalist, says it is well known that eagles will not breed without an Aetites. The sober-minded bishop, Isidorus merely says that the stones are found in the nests.

It is an unfortunate coincidence that Albertus Magnus (3) records that he himself found an Aetites in a stork's nest, occupied year after year, in a garden at Cologne (*De Mineralibus*, Lib. II, Tract II, cap. V), thus confirming the myth. The *Hortus Sanitatis* (15) first published in 1497, has a woodcut of the eagle taking the stone to a nest in which are two fledglings. Gesner (12) says the stones are ' supposed to be ' found in eagles' nests, but evidently did not believe it, having collected specimens for himself. One of the first writers actually to deny it was that great geologist Bernard Palissy in 1586—' Je cray que ce n'est autre chose qu'un fruit lapifié, et ce que joui dedans, est le noyau '.

It is, however, difficult to kill a lie, especially one which adds to the price of a commodity sold in shops. Richard Lovell (18) published his book *Panzoologico-mineralogia* in 1661 : from this Aristophanic title he omitted the element ' medico ', the subject being all that had been written on the medical uses and properties of animals and minerals (the vegetables were in a separate book). Each stone has first a locality, that for a the Eagle-stone being ' in the eagle's nest in Germany '. Grew (13), however, calls this a ' vulgar opinion '. D'Argenville (5), in 1742, perhaps influenced by his countryman Palissy, says definitely, ' La pierre d'Aigle, apellée Aetites, de la couleur du Fer, ne se trouve point dans les nids des Aigles, mais dans les Mines sur la Terre, où les Torrents les aménant '. Those authors who say whence the eagle got the stone always name some remote locality—India, Persia, the furthest bounds of Ocean and so on.

The reasons for which the eagle desired or needed a stone are various and sometimes contradictory. That it could not breed without one, or a pair, is rather bald and calls

for some embroidery. Marbodus (19) says it is a caretaker for the nest and a protection for the future, as it serves to avert misfortune from the chicks. According to Alexander Neckham (20), afterwards Abbot of Cirencester, about 1190, the eagle, on account of its own heat, inserts this intensely cold stone among the eggs, so that with the cold as a remedy, the heat should not spoil them. In the Peterborough Lapidary (11), late fifteenth century, the eagle swallows the etite, but when he builds his nest, he keeps it in one corner, to frighten away other eagles. Other writers say that the use of the stone is to keep the eggs warm. Leonardus (17), in 1502, says that the birds use it to keep away venomous beasts from the nest : naturally a snake fears an eagle-stone as much as an eagle ! This property is referred to by de Boodt (6).

Pomet's (25) *Compleat History of Druggs* (original French edition, 1694) first refers to Aetites in the animal section under Eagle. ' But of all the Parts of the Bird there is nothing sold in the Shops but a Kind of Stone that is found at the Entrance of the Holes where the Eagles build their Nests to preserve their Young from Lightnings and other Injuries of the Weather. . . . Some write that the Eagle hunts for this Stone to the very Indies in order to hatch forth their young Ones '. Under mineral remedies he quotes Pliny, lists localities in Portugal, France and Germany, and adds, ' it is now no longer believed that they are found in the Eagle's Nest '.

### Aetites for human beings

The fable that the stone was found in eagles' nests served, no doubt, to add to its price, but its value lay essentially in its supposed talismanic virtues for human beings, the most important being that it prevented miscarriage and, in due time, procured easy delivery for women ; but it also served to detect a thief or secret enemy and in several other ways. Dioscorides (8) is again our first author :—' Aetites is an holder in of ye Embrya, when ye wombs are slippery, being tied about ye left arm ; but in the time of deliverance, taking it from ye arm tie it about ye thigh, and she shall bring forth without pain ; and it is a discloser of a thief, if any put it into ye bread that he offers him, for he that stole cannot be able to swallow down ye things chewed ; and they say also that Aetites, being sodden together with meat becomes a betrayer of a thief, for he who stole, shall not be able to swallow that which was sodden with it ; but being beaten small, and taken in a Cerat made of Cyprinum or Glucinum or of some other of those that warm, doth greatly help ye epilepticall '.

Pliny adds that it is useful to cattle as well as women, with the extra precaution that it should be wrapped in the skin of an animal that has been sacrificed (xxxvi, 39). The *Lapidary* of Marbodus (19) became the basis of all works on stones until the renaissance of genuine science. So far as I am aware, the passage has not been published in English. Section xxv, after the statement given above, reads :—' It contains another stone, as though pregnant ; it is therefore believed to be able to help those with child, lest they should have a miscarriage or give birth laboriously. Attached to the left arm in the usual way it confers sobriety on the wearer. It increases wealth and makes the owner to be loved and to be victorious and honours him with the favour of the people. It enables boys and girls to live without injury, and is carried to hinder the feeble from falling. If any one should be under suspicion of trying to poison you and you wish to prove whether he ill-wishes you, let him of whom you are afraid be invited to share your board. When food into which the eagle-stone has been introduced is set before him, if there is any deceit in his heart, he will be unable to swallow when he tries, but take away the stone and he will devour it greedily. The stone is reckoned to have a purplish

colour and is found concealed on the shores of the Ocean, or in the nests of eagles, or the land of the Persians. It is said that the twin brethren, Castor and Pollux, carried one '.

Neckham, in the *De Laudibus Divinae Sapientiae*, a later poetical version of the *De Naturis Rerum*, mentions that it detects a secret enemy at the table; the Sloane Lapidary (11), late sixteenth century, says that the enemy is unable to swallow when *the host* puts the stone in his own mouth, and adds that ' it helpeth ye knawinge gowte '; the name of the stone is turned from Aquila to Achilles !

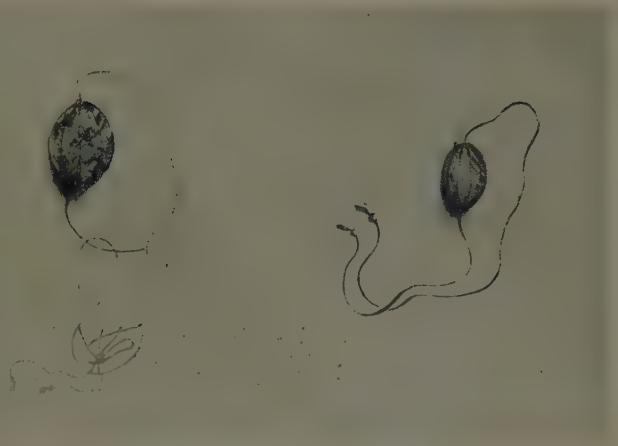
At the beginning of the sixteenth century Leonardus (17) fully justifies his statement that the virtue of this stone is wonderful: ' some say, if it be held out to one that has poison'd Meat in his Hand, he will not be able to swallow it; the stone being removed he may take it; . . . it drives away poisonous creatures ' and has all the virtues for pregnant women, makes the bearer amiable, sober, rich, etc. as in the authors already quoted. On the other hand Paracelsus (22) (d. 1541) does not particularize: ' there remains [after describing various gems] another gem beyond what is natural, which, by the will of Nature, becomes an instrument of various forms and properties, as the Eagle-stone. Rueus (12) quotes Pliny and others, gives full details about the thief, but adds that there are other superstitions that he cannot believe; he would not have included the thief, but for the great weight of authority behind it. Lovell (18) is also a stickler for authority; he mentions all the usual properties, with references to Dioscorides, Pliny, Isodore, Rueus, Brasavolus, Myrius, Schroderus, Albertus Magnus and Aldrovandus. I have not thought it necessary to check Brasavolus, Myrius or Schroderus, but Lovell's own opinion as a doctor may be guessed from one sentence—' there are also divers other frivolous things reported of it by divers authors '.

Even Sir Thomas Browne (7), ten years later is cautious, though sceptical. In the *Pseudodoxia Epidemica*, Bk. II, cap V, he writes—' whether the *Aetites* or *Eagle*-stone hath that eminent property to promote delivery or restrain abortion, respectively applied to lower or upward parts of the body, we shall not discourage common practice by our question; but whether they answer the account thereof, as to be taken out of *Eagles* nests, so operating in Woman unto such effects as they are conceived toward the young *Eagles*; or whether the single signature of one stone included in the matrix and belly of another were not sufficient at first to derive this vertue of the pregnant Stone, upon others in pregnation, may yet be further considered. Many sorts there are of this rattling Stone, besides the *Geodes*, containing a softer substance in it. Divers are found in *England*, and one we met with on the Sea-shore; but because many of eminent use are pretended to be brought from Iseland, wherein are divers airies of *Eagles*, we cannot omit to deliver what we received from a learned person in that Country, *Aetites an in nidis Aquilarum aliquando fuerit repertus, nescio. Nostra certe memoria, etiam inquirentibus non contigit invenisse, quare in fabulis Habendum* '. The fact that Browne included it in the Pseudodoxia is sufficient evidence of what he thought.

At the end of the seventeenth century Pomet (25) says ' it were to be wished that the Virtues attributed to the *Eagle Stone* were as certain as they are considerable ', while Lemery, the author of additional notes in this book, appeals from authority to experience, which ' does not confirm the Virtues with any Pretence of Certainty '.

I have not attempted to trace the history of the Eagle-stone in Oriental authors, whose works I can only read in translations; but in his notes to his translation of *Paul of Aegineta* Francis Adams (1) says ' The Arabians also confirm, in the strongest terms, the imaginary efficacy of the Eagle-stone when used as an amulet. That it accelerated the delivery of women in tedious labours, Serapion and Rhases declare from ample experience '. He adds his own comment, which seems highly advanced for his date,

A LARGE AETITES MOUNTED IN GOLD



SMALL AETITES WITH STRINGS ATTACHED

From the Windsor Albums, reproduced by the gracious permission of His Majesty the King

PLATE I

*facing p.* 20

# PLATE II

EAGLE-STONES

Collected by Dr Hildburgh from Italy, Tyrol, etc., mostly mounted in silver or brass and all used as amulets. Photo by courtesy of Dr Hildburgh, who has presented the specimens to the Wellcome Historical Medical Museum.

and which would now be generally accepted as accounting to some extent for the great popula ity of the belief: ' that it would produce this beneficial effect on those who had faith in it *we* [his italics] can readily believe.' Indeed, we have often regretted that such innocent modes of working upon the imagination of women in labour had given place to more dangerous methods of practice in such cases '.

Specimens of the Eagle-stone that have actually been used in former times are probably now confined to those mounted in metal to be worn as amulets or kept beside the expectant mother's bed. These, especially if experience appeared to confirm their efficacy, would be greatly valued. Joan Evans (10) has published several instances. In 1332 three ' peres de·egle ' were in the possession of the Earl of Hereford and his wife. ' The will of Jehan de Charmolue, dated 1604, bequeaths to his cousin ' une pierre d'aigle garnye d'argent la plus belle et bonne quy se puisse voyr. Elle soulage fort les femmes grosses en leur accouchement, la lyant à la cuisse gauche, et la fault retirer incontinent que l'enfant est au monde '. She figures one in plate IV (facing p. 175) which is described in the list of illustrations—' A piece of limonite containing a loose stone inside it, considered to be aetites or eagle-stone, mounted as a pendant in engraved gold. Bavarian, eighteenth century. British Museum '.

About the year 1626 a number of sepia drawings and coloured paintings were made of the geological specimens belonging to the Academy of the Lincei at Rome. These were purchased, with others, by King George III and are now in the Royal Library at Windsor. By gracious permission of His Majesty the King I hope shortly to publish a full account of these; the first plate in the volume of coloured pictures shows a very large eagle-stone, such as we learn from several authors were obtained from the district of Monte Gargano. It is mounted in gold either to stand or hang; the figure is almost certainly natural size; the overall height is $8\frac{3}{4}$ inches and the nearly globular stone is $5\frac{3}{4}$ inches across. (PLATE I, FIG. 1).

The same album has a plate (V 25) showing two oval stones of ochreous colour, respectively $1\frac{1}{2}$ and $1\frac{1}{4}$ inches in length, to each of which is attached a pair of strings with small tassels. I feel practically certain that these are aetites ready for binding to the left arm and thigh as prescribed. Photographs of the two drawings are reproduced on PLATE I, FIG. 2. PLATE II shows Eagle-stones collected by Dr Hildburgh.

If such treasures exist anywhere I should be glad to hear of them; small mounted amulets like that in the British Museum, figured by Joan Evans, probably lie unrecognised in many collections; the Wellcome Historical Medical Museum possesses about a dozen. Perhaps this paper may serve to bring others to light.

I have only come across one statement of the price of unmounted stones. De Boodt in 1609 says that the stones serve to prevent miscarriage, to procure easy labour, for epilepsy, plague, dysentery, carbuncles, etc.; to keep off snakes and detect thieves. The best are sold for twenty thalers, but small and poor ones can be got for one or two thalers.

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# The Bronze Lion of St. Mark at Venice

by J. B. Ward Perkins

THE measures taken for the protection of the monuments and works of art of Europe during the recent war, besides saving an incalculable number from damage or destruction, have also made available for detailed study many that are normally difficult or impossible of access. One such has been the bronze lion of St. Mark, familiar indeed to every visitor to Venice but only at a respectable distance, from the loggia of the Doge's Palace or from the foot of its lofty column by the waterfront of the Piazzetta di San Marco. In 1941, together with its companion figure of St. Theodore, the four bronze horses from the facade of St. Mark's, the great equestrian bronze of Colleoni, and numerous lesser works, it was lowered to safety and stored throughout the war in the vaults of the Doge's Palace. Shortly after the liberation of Venice in 1945 it re-emerged to form part of a unique temporary exhibition in the courtyard of the Palace, after which it was replaced once more upon its column. The writer is indebted to Commendatore Forlati, Superintendent of Monuments for the Veneto, for permitting publication and for much courteous help in eliciting facts and photographs ; and to many colleagues in Rome for criticism and comment—helpful not least by its variety (1). While venturing some comment on what is evidently a provocative and controversial animal, it must be stressed that the primary purpose of this article is the presentation of a detailed description of the statue, accompanied by the known historical facts and by adequate illustration. These will at least enable others, better qualified, to pass long-overdue judgment on one of the select company of ancient works of art that have never been below ground since the day they were made.

It is not the first time that it has been moved. Napoleon seized it and took it to Paris, where it stood for a number of years in the Place des Invalides before being returned to Venice in 1815. An amusing contemporary account by the Countess Potocka, writing to her husband on 5 October 1815, shows that the sentiments sometimes aroused in 1946 by the restitution of looted works of art are not altogether new :

> ' On a voulu enlever le lion qui était sur la place des Invalides, car les Vénitiens le redemandent. Les Autrichiens se sont donc mis en train de la descendre eux-mêmes, car on n'a pu trouver aucun Français qui voulût travailler à aucun des ouvrages servant à dépouiller la France. Tout le peuple en silence était rassamblé sur la place, regardant faire, mais les maladroits ont laissé tomber le lion du haut de son piédestal et il s'est brisé en vingt pièces. Aussitôt les acclamations, les rires et les éclats de joie ont fait retentir les airs, ce qui a mis les Autrichiens dans une horrible colère ! Le lion de Saint-Marc ne sera plus pour personne ' (2).

Happily the damage, though serious, was less complete than the Countess imagined. After restoration by the sculptor Bartolommeo Ferrari, the lion could once more be replaced upon its column. In 1891 it had again to be removed for a complete overhaul

[1] In addition to those mentioned in the text I wish to thank especially Signora Forlati and Miss J. M. C. Toynbee ; Mr T. J. Dunbabin, Mr R. H. Hinks, Prof. G. Mancini, Prof. C. R. Morey, Prof. M. Pallottino, Dr E. Sjöqvist, and Prof. P. Toesca.

[2] Quoted by Boni, see note 3.

under the direction of Giacomo Boni, who subsequently published an excellent account of his work in *Archivio Storico dell'Arte* (3). During the war of 1914–1918, unlike the other great Venetian bronzes, it remained in place ; and it was not again touched until 1941.

The earliest historical mention of the lion is a record, dated 1293, of the authorisation by the Grand Council of funds for the repairs of ' the lion, which is on the column ' (4). The fact that it then needed repair warrants the presumption that by the close of the thirteenth century it had already been in position for some time. The massive column upon which it stands is classical work, of grey Egyptian granite, with a twelfth century Venetian capital. It is one of three brought from the East by Doge Vitale Michieli in 1172 (5). The second was lost in transit. The third, of red Egyptian granite, stands just across the Piazzetta bearing the statue of the Byzantine warrior-saint, Theodore, trampling upon a dragon. The trunk of this statue is Roman, but the rest cannot be earlier than the fourteenth century. By analogy there is therefore no need to regard the installation of the lion as necessarily contemporary with the erection of the column. Indeed the failure of the sources to refer to the lion in that connexion strongly suggests that it was a later addition. It may in fact have been placed in position any time between 1172 and the middle of the thirteenth century.

It has undergone considerable restoration on several occasions, notably after the accident of 1815 (FIG. 1). All four paws, together with considerable parts of the left foreleg and right hind-leg, are the work of Ferrari, as are also the wings, a small patch of curls on the top of the head, the upper part of the rump, and all save the tip of the tail. Ferrari's work is distinguished by a rather dry, academic manner, which blends well enough with the older work but has undoubtedly lost something of the fire and spirit of the original figure. His also is undoubtedly the inspection-hatch in the belly ; perhaps also the white, vitreous-paste filling of the eyes, which certainly cannot be ancient. A modern-looking patch on the left flank is accepted by Boni, who was in a better position to judge than ourselves, as original. The small square patches visible over much of the original surface are the pegs by which, since 1815, the constituent fragments of the figure have been secured to an inner, strengthening framework. This framework was at first of iron, and it was the decay of this metal which necessitated the restoration of 1891. It was then replaced in bronze. The same framework serves also to carry the great weight of the wings, which are cast separately and bolted into place through the thickness of the body-metal.

With these considerable exceptions the figure, notably the head, forequarters, and flanks, is substantially original and in good condition. The metal is sound and has lost little of the fine workmanship of the moulded surfaces. It was, it seems, formerly gilt. Boni quotes a sixteenth-century Venetian writer, Contarini, who describes it as ' fulgente d'oro '; and he himself claims to have found traces of gilding in the recesses of the upper jaw. Such gilding was common practice in the case of large classical bronzes. Instances that spring to mind are the equestrian statue of Marcus Aurelius on the Capitol in Rome, or in Venice itself the four classical bronze horses on the facade of St. Mark's.

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[3] G. Boni, ' Il Leone di San Marco,' *Archivio Storico dell'Arte V*, 1892, pp. 301–20.

[4] *MCCXCIII. Die decima quarta Madij. Item quod Leo, qui est supra columpnam, debeat aptari de denarijs qui accipientur de gratia Vini et lignaminis.* (Archivio di Stato venezia, *Deliberazioni del maggior Consiglio*, Pilosis, quoted by Boni, op. cit. p. 307).

[5] Probably from Chios ; see D. W. S. Hunt, *Annual of the British School at Athens*, XLI, 46–7.

The only important feature, as to the antiquity of which there appears to be an element of doubt, is the wings. The present wings are of course the work of Ferrari; but Boni specifically records the traces of earlier wings springing from the body between the roots of the present pair: ' The curls which drop to the shoulders cover the base-feathers of the ancient wings, feathers which are cut off short by the sockets into which the later wings are fitted. The difference between the ancient feathers and those of the restored wings is striking. The former are rounded and concave and present a smooth surface; the latter are convex, and the surface is broken up to give a greater realism. The roots of the ancient wings are closer together and nearer to the neck; indeed the

FIG. 1. THE LION OF ST. MARK, ORIGINAL PARTS SHADED

feathers can be seen right at the base of the mane before reaching the spring of the modern wings' (6). This is a clear and precise account by another wise accurate observer; and it must be recorded that the present writer's examination was made without knowledge of Boni's conclusions and therefore to that degree leaves room for an element of uncertainty. Nevertheless it seems very clear that in this respect Boni was in error, and that the ' rounded and concave feathers ' which he noted were in fact the double line of S-curls which run from the mane down the back, cut off, as he remarks, first by the wing-slots and then by the nineteenth-century patching of the lower back and rump. To anticipate for a moment the conclusions of the paragraphs which follow, it may be suggested that the present wings replace, with some fidelity, their medieval predecessors, which had themselves been added to convert a previously wingless beast into the familiar symbol of St. Mark. Had the lion been from the first winged, it would have been reasonable to expect some indication of the point of attachment in the

[6] Boni, op. cit. p. 304.

modelling of the ancient surfaces of the body ; and of this there is none. Indeed the line of curls which now delimits the shoulder and, before the addition of the present wings, must certainly have continued up to join the similar line of curls along the back, makes it very hard to see where a wing could have been attached. There can be no absolute proof that the lion did not from the first have wings, all traces of which have been obliterated by subsequent restorations ; but the balance of probability is certainly that it was at the outset wingless.

The immediate impression which the figure conveys is one of great inner power, focussed in the strange head and face and expressed through the medium of a strongly developed decorative convention. The latter is the more striking in that, on closer inspection, it will be seen that the artist possessed at the same time a very real awareness of, and a fair ability to express, certain of the plastic values of his subject. The naturalism of the shoulders and fore-legs is particularly striking. It is true that, for example, the curving folds of flesh at the junction of the fore-legs and body are also given their maximum value as patterns. The veins of the legs too are accentuated for the sake of their decorative effect. But it is an accent based, at first or second hand, on observation of nature ; and enough remains of the original (notably of the left hind-leg) to show that in this respect Ferrari's restoration was probably not far wide of the mark. By comparison the trunk of the body is stiff and lifeless. The ribs are not modelled but suggested by a light superficial graving ; and the proportions are unnaturally long from shoulder to hip. Unlike the muscular strength of the legs, the trunk makes no attempt to suggest an underlying framework of muscle and bone. It is little better than a tapering cylinder of bronze which serves to connect the hind- and the fore-legs.

By contrast with the body, which belongs, albeit somewhat hesitantly, within the world of living creatures, the head has a nightmarish quality utterly remote from the savagery of the fiercest lion of flesh and blood. Something of this effect it certainly owes to the staring white eyes, which are not original. The curls too on the top of the head are early nineteenth-century additions and must be discounted from the general effect. Even so enough remains that is strange : the grinning, slit-like mouth ; the military moustache, with its parallel rows of bristles along the upper lip ; the broad, powerful snout ; the high, ridged eyebrows ; the apelike ears ; the vigorous modelling of the whole head, culminating in the snout and in the high cheek-bones, thrust like wedges between the long hollows of the eye-sockets and the folds of the flesh at the corners of the mouth. The total effect, especially when viewed from the front, is that of a horrid parody upon the human face, a parody which would hardly be out of place in a medieval representation of the inferno. It is no doubt an accident, in the sense that the artist was surely not consciously aiming to produce this quasi-human effect. There is, however, a strong suggestion that the conventions within which he was working had been shaped by a tradition familiar with the portrayal of human-headed monsters. The point may prove to be of only limited importance as far as the immediate background is concerned ; but it is an essential observation if the strangely unclassical, monstrous quality, of the head is to be viewed in its proper perspective.

The mane is chiefly distinguished by the vigorous modelling of the long sinuous curls, which encircle the neck in a formal series of overlapping rings. Particularly noteworthy is the skilful gradation of relief, from the sharply outstanding fringe of curls bordering the face to the gentle rise of the lowest ring, where the mane merges into the body. An unusual and distinctive feature is the crescent-shaped motif, which appears as a chain at the junction of the mane and the shoulder and is repeated singly between the points of some of the curls of the lowest ring of curls. The effect is that of a thumb

pressed gently upwards, wrinkling the skin into low relief ; and it has all the appearance of a motif which owes its employment to traditional usage rather than to the very slight contribution which in this case it makes to the total decorative effect.

Whether or not the above analysis be found convincing in detail, it is immediately evident that the lion is something of a stylistic hybrid. It is interesting in this respect to compare it with two well-known Etruscan bronzes, the Chimaera of Arezzo (7) and the Capitoline Wolf (8) (FIG. 2). The chimaera in particular exemplifies to a marked degree a striking and effective dualism of treatment between the powerful, but rigidly formalized, head and mane and the tremendous naturalistic vitality of the body. In the wolf the naturalistic element is less strongly developed ; but it emerges clearly in the treatment of the head with its network of fine veins running down the muzzle and encircling the eye ;

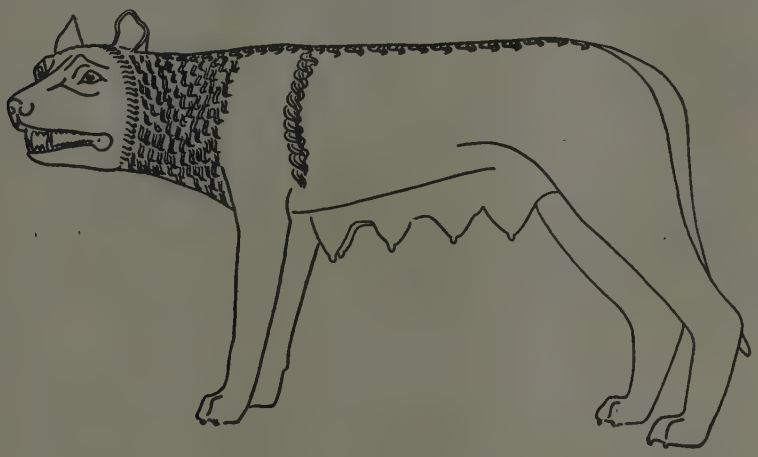

FIG. 2. THE CAPITOLINE WOLF

while the body, despite an evidently purposeful rejection of superficial naturalistic detail, contrives in a masterly manner to convey the impression of bone and sinew covered by taut flesh. The representation of the dew-claws is an unexpected touch of realism. The mane by contrast is pure pattern, a pattern which is continued down the body in the shape of a double line of curls running down the spine to the base of the tail and branching at right angles to demarcate the shoulders from the ribs. This treatment of the hair finds a striking analogy in the lion. Here too there is a well-defined, if somewhat rudimentary, line of formal curls separating the vigorous modelled shoulders from the ribs and continuing down the backs of the fore-legs. Enough remains of the original surface of the back between the sockets of the wings to show that a similar, but more vigorously modelled, line once ran down the spine to the tail, where it forked to outline the genitals and to continue down the backs of the hind-legs also. The chimaera from Arezzo lacks

[7] P. Ducati, *Storia dell'arte etrusca*, pp. 219, 262, and 266, n. 24 (with bibliography), and pl. 106 ; G. Q. Giglioli, *L'arte etrusca*, pls. 228–229 (with bibliography).

[8] Ducati, op. cit. pp. 261–2 and pl. 105 ; Giglioli, op. cit. pl. 197 (with bibliography) ; Helbig, Führer, 3rd edition (1912), I, pp. 562–4.

the shoulder-band ; but it too has the same dorsal extension of the mane and a line of close-cropped hair down the back of each thigh.

The purpose of this comparison is not to suggest that the lion of St. Mark is an Etruscan work. There are moments, it is true, when surveying the astonishing diversity of the products of Etruscan craftsmanship, one is prepared to believe almost anything of that enigmatic people—but not quite this. Apart from any more subjective, stylistic grounds, the scale of the statue, which stands over five feet from the fore-paws to the crown of the head, is out of all proportion to that of any known Etruscan bronze. What does emerge is, firstly, a resemblance in the formal pattern assumed by the body-hair in each case, a resemblance which may prove to be accidental but is certainly sufficiently close to warrant further examination. Secondly, and more generally, the comparison serves to suggest that the origins of the lion can most profitably be sought under conditions similar to those which produced the combined naturalism and stylization of these Etruscan bronzes.

The possibility that the lion might be of Italian medieval workmanship seems to be excluded on several grounds. In the first place one searches in vain in North Italian sculpture prior to the middle of the thirteenth century (on historical grounds the latest possible date for its manufacture) for a parallel to the naturalism of the legs. The early medieval craftsman was, it is true, capable of producing some surprising and unpredictable results when confronted with an unusual model. A very apt case in point is the beast which supports the font in the baptistry at Parma, the work of the sculptor Antelami shortly after 1196 (**9**). A comparison of the head and mane, and in particular of the relation between the two, leaves little doubt but that Antelami must have seen, and was copying, the Capitoline wolf, which since the tenth century had been a familiar landmark beside the Lateran Palace (**10**). Such copying of antique details and even of whole compositions was characteristic of an inquisitive, experimental age. Even so it remains improbable that any Italian twelfth- or early thirteenth-century craftsman could have reproduced a form of expression so alien as the naturalistic composition and detail of the legs without in some way impressing his own stamp upon it.

A second reason against a medieval date is that the pose is not that of the romanesque lion, a well-defined type based on Roman models, with a short, thick-set body, and tail coiled tight round against the flanks or between the legs. Far more cogent, however, indeed to the writer conclusive, is the objection that there is nothing in the large body of surviving medieval metalwork, nor in the relevant literature, to suggest that the Italian craftsman of that date was capable of the technical feat of hollow-casting so large a mass of metal, and of casting it superbly well (**11**). That he could handle the *cire perdue* process with considerable ability is beyond dispute. His outstanding achievements in this field are to be found among the great series of twelfth and thirteenth century bronze doors, which follow upon those imported in the eleventh century from Constantinople. But these are essentially composite works made up from smaller panels, each separately cast. The bronze doors made for St. Mark's in 1300 by the Venetian *aurifex* Bertucius give the true measure of the capabilities of contemporary Venetian craftsmen. It is no coincidence that the monumental bronze griffin of Pisa should be an imported Arab

[9] Venturi, *Storia dell'Arte Italiana*, III, p. 279 f. and fig. 291 ; better illustrated C. Ricci, *L'architettura romanica in Italia*, pl. 57. Is it coincidence that the lions carved by the Pisan sculptors of the thirteenth century echo the shoulder convention of the same beast ?

[10] Helbig, *Führer*, loc. cit.

[11] See Venturi, *Storia dell'Arte Italiana* II, p. 540. The efforts of Boni (op. cit. pp. 310–5) to prove the contrary are not convincing.

Photo by Superintendency of Monuments, Venice

*facing p.* 28

PLATE II

Photo by J. B. Ward Perkins

PLATE III

Photo by J. B. Ward Perkins

Photo by Superintendency of Monuments, Venice

work, probably from Spain (12). It was not indeed until the fourteenth century that large-scale hollow-cast bronze figures make their appearance in Italy, and then on a scale and of a technical ability markedly inferior to that of the lion. Such are the Evangelists of the facade of Orvieto cathedral (13) and the lion and the griffin of the Palazzo Comunale at Perugia (14). These, and not the lion, constitute the tradition of native medieval craftsmanship out of which were to spring the superlative achievements of the bronzesmiths of the Italian renaissance.

The appearance of a foreign work of these dimensions in Venice in the thirteenth century need occasion no surprise. Indeed St. Mark's is such a museum of looted Byzantine and near-eastern antiquities as almost to create a presumption that the lion too was acquired in the same way. Nothing could be historically more probable than that, like the horses of St. Mark's, it formed part of the loot of Constantinople after the infamous fourth crusade of 1204. Alternatively it might have been acquired in the Aegean or in the Levant, like the column upon which it now stands, or the sculptured pillars looted from Acre in the time of Doge Pietro Gradenigo (1289–1311) which now stand in the Piazzetta beside St. Mark's. The detailed possibilities are several; but all tend to point towards the eastern half of the Mediterranean as the immediate source from which the lion reached Venice.

There is nothing novel in this conclusion. Already at the beginning of the century Venturi suggested that the lion was of oriental origin, perhaps Sassanian, an attribution which he based specifically on the flamelike treatment of the mane and the general physiognomy of the head (15). In this he has been followed by the majority of subsequent scholars, all of whom have remarked on the beast's strongly 'oriental' expression. To the superficial observer (a category which in respect of oriental studies emphatically includes the present writer) the Asiatic flavour certainly appears strong. This vulgar opinion is not without support from qualified oriental students. Professor Monneret de Villard, while reserving a considered judgment, states that the first impression conveyed by the head (but by the head only) is certainly one of strong Chinese influence. On the other hand Mr Basil Gray, of the Department of Oriental Antiquities in the British Museum states emphatically that it cannot be Sassanian (an opinion based on general unlikeness and, in particular, on the naturalistic treatment of the legs); and that in general terms he does not believe it to be oriental work. Such divergence of expert opinion is readily to be explained by the fact that both Professor Monneret de Villard and Mr Gray have kindly allowed themselves to voice first impressions based on the limited photographic evidence which the writer was able to put before them. It is in a spirit of self-defence that the writer has presumed to quote them. The oriental character of the lion's head is a matter upon which only qualified orientalists can be expected to pronounce (16).

[12] R. Papini, *Catalogo delle cose d'arte e di antichità d'Italia*: *Pisa*, pp. 116–7, no. 220, where it is stated to be Egyptian work of the Fatimid period. Monneret de Villard however (*Comptes Rendus de l'Académie des Inscriptions et Belles Lettres*, 1946, pp. 21–3) convincingly argues that it is Arabo-Spanish (Andalusian) work.

[13] *Archivio Storico dell'Arte* II, 1889, pp. 185–203, 327–338, 433–4.

[14] Illustrated by R. A. Gallenga Stuart, *Perugia* (*Italia Artistica*, no. 15), p. 37.

[15] A. Venturi, *Storia dell'Arte Italiana* II (1902), pp. 540–2.

[16] Since this article was completed, Professor Osvald Sirén has kindly replied to the writer's enquiry: 'I must say that I cannot see any trace of Far Eastern influence in this rather extraordinary sculpture. Neither the body nor the head reminds me in the slightest degree of anything that I know from the Far East . . . it was certainly not made in the Far East'.

One point at any rate admits of ready verification, inasmuch as lions are one of the motifs most frequently depicted on Sassanian silver-ware. A selection of these is reproduced in FIG. 3. All in some degree reveal something of an ancestry that was in part at least Hellenistic; and the extent to which this has become crystallized into conventional tricks of pattern varies greatly from one to another. In judging of this transformation it must of course be remembered that the technical limitations of embossed and engraved metalwork such as this inevitably tend to impose stylistic mannerisms, which may well be absent from large contemporary metalwork in the round. Even so it is at once evident that even the least mannered of the Sassanian beasts here illustrated, that from the silver dish of Bahram Gur ('Bahram, that great hunter' of literature and legend, who died in 438) in the British Museum, has already strayed far from the sinewy naturalism of the legs of the lion of St. Mark. Paradoxically enough the head is far more recognizably that of a real lion; and the same is true even of the more fully conventionalized heads of figure 3, nos. 2, 3 and 5. The common element between these beasts and the lion of St. Mark is slender indeed. The latter cannot possibly be considered a Sassanian work, nor indeed as work produced under Sassanian influence.

If it is the plastic treatment of natural detail which distinguishes the lion from Sassanian or contemporary oriental work, it is precisely this quality which is the most consistent characteristic of the large animal-bronzes of classical antiquity. Were it not for the head, it is certainly within this orbit that the lion would long ago have found a place. That it has not hitherto been generally even considered in that connexion is readily explained by the fact that, under normal conditions of inspection, it is the medieval additions and the one startlingly eccentric ancient feature, the head, which command attention at the expense of all else. Leaving on one side for the moment the problems raised by the head, it can hardly fail to be illuminating to consider briefly the rest of the statue as a potentially classical bronze and to attempt to assign it a place in the development of the art of animal-sculpture in classical antiquity.

The phrase 'classical antiquity' is a broad one, covering as it does parts of three continents and ten centuries of time. Happily it is possible in this case to narrow the possible limits considerably. With its broad planes and four-square pose the lion finds no place for example within the development of that dramatic, highly emotional phase of Hellenistic sculptural art that stems from Scopas and Lysippus and finds its consummation in the Pergamene frieze or in the Laocoön. Apart from the strangely terrifying head, its strength lies very much in its reserve, a quality which was conspicuously absent from the earlier Hellenistic canon. On the other hand, despite this quality of reserve, it has an intense inner vitality, which at once sets it apart from the somewhat dry, eclectic, academicism of the neo-Attic mode, which dominated the production of statuary in later Hellenistic times and under the early Empire. It is true that in the field of animal-sculpture, and notably in its bronzes, this age produced some of its liveliest and happiest compositions. The Pompeian fawns have a grace, and the horses of St. Mark's a calm but vital dignity, which distinguish them from mere school-pieces, however accomplished, and can only spring from a real and direct sensibility on the part of the sculptor. But it is a sensibility expressed in an age of good manners. Even the horses, which to a degree unsurpassed in Hellenistic sculpture recapture the serene self-sufficiency of classical Greek art, are in this respect poles removed from the rude vitality of the lion.

Of the remaining possibilities, one is to regard the lion as a late-classical work from one of the eastern Mediterranean provinces. Certain it is that the tradition of a

monumental bronze sculpture, notably exemplified in the fourth century A.D. by the bronze head, identified as Constans I, in the Capitoline Museum (**17**) or by the colossal statue of a Byzantine emperor which stands in the square beside the church of S. Sepolcro at Barletta (**18**), survived in the East unbroken into the middle ages ; and it was a *milieu*

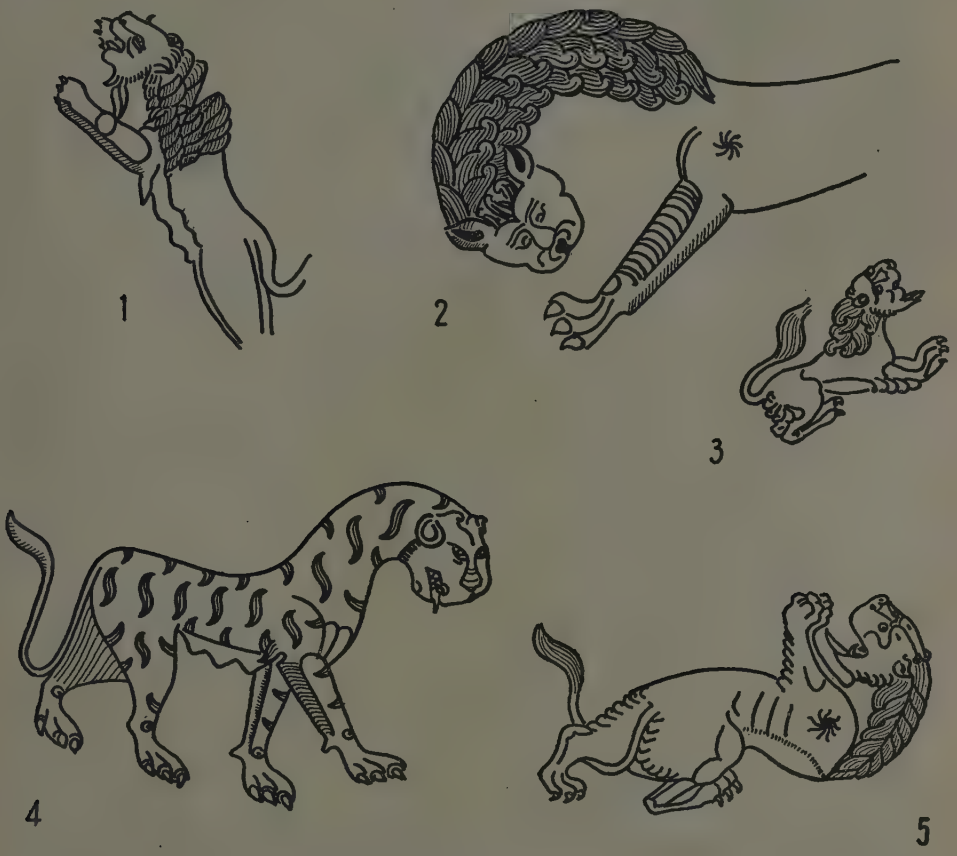


FIG. 3. LIONS AND A PANTHER ON SASSANIAN SILVER DISHES

in which one is accustomed to find essentially Hellenistic forms and techniques transformed by the infiltration of Oriental motifs and principles of composition. Such at any rate is the lesson of the great series of mosaics from Antioch ; such too is the trend

[17] H. Stuart Jones, *Catal. of the Sculptures of the Palazzo dei Conservatori*, pp. 173–4, pl. 60.

[18] By tradition it was, like the horses of St. Mark's and perhaps also the lion, looted from Constantinople in 1204, and lost by shipwreck on the homeward voyage. The Emperor whom it represents is variously identified. See Peirce and Tyler, *L'art Byzantin I*, pls. 30–2.

of sculpture as exemplified by the ' Lydian ' and ' Sidamara ' series of sarcophagi which were made in Asia Minor and range from the middle of the second to the end of the fourth centuries (19). In the latter case however it is important to notice that the emphasis is not upon the introduction of fresh motifs. No feature indeed is more striking than the obstinate survival throughout the series of even the most trivial iconographic detail. The change is here essentially one of sculptural treatment and of composition. The mosaics, it is true, did receive fresh motifs, derived from the world beyond the eastern Roman frontier. Far more important however was the radical transmutation of style, which accompanied their introduction and involved the very principles of mosaic-composition.

Analogy thus joins common sense in rejecting the likelihood that the Orientalization of a late Roman bronze would have taken the form of grafting a single Oriental feature upon a body that was still in many details naturalistic ; nor indeed does it seem probable, judging from the whole trend of Roman imperial sculpture after the second century A.D. away from the long-standing tradition of Hellenistic naturalism, that this quality could anywhere have survived sufficiently late to serve as the progenitor of so startling a stylistic hybrid. A second, and equally serious, difficulty in the way of a late-Roman dating is the absolute lack, already noted, of characteristics in common with the lions of Sassanian Persia, the obvious contemporary source of intrusive Oriental ideas and motifs. Finally, and to the writer almost conclusively, the stylistic analysis of the body, so far from revealing a developed classical sculpture passing into another phase of its spiritual development, bears all the signs of a developed archaic sculpture that has not yet reached its full classical maturity. The solid, four-square pose, which is still only in the process of shaking loose from the conventions of frontality ; the contrast between the rigid, barrel-like body and the carefully observed naturalistic detail of the legs ; the lack of a coherent articulation ; the formal decorative convention of the mane and the rudimentary survival of a similar convention on the body : all these bespeak a sculpture that is still feeling after the full freedom of naturalistic expression. The shortcomings (judged by classical standards) are those of immaturity, not those of an inexpert eclecticism. *If* the lion is a classical bronze it must surely be an early piece.

It was the writer's original purpose to publish the illustrations which accompany this note with the relevant historical facts and the minimum only of critical commentary. Having instead been tempted into the indiscretion of venturing a positive suggestion as to the origin of this puzzling monster, it will be as well, before launching upon this more controversial matter, to summarize the conclusions already established in the preceding section. Historically it is certain that the lion antedates the thirteenth century ; and as on both technical and stylistic grounds it cannot be regarded as a work of the Italian Middle Ages, there is a strong presumption that, like so many other Venetian antiquities, it represents booty either from Constantinople or the Levant. Any attempt to define more closely the place and date of manufacture has to take account of the striking diversity of style between the head and the body. For all its power, the head is strongly conventionalized ; and it is very ' Oriental ' in appearance, something at any rate that is far removed from the developed classical tradition of Greek and Roman sculpture. The body on the other hand falls naturally into place within the Mediterranean classical tradition. More precisely it might be taken to represent a phase of classical sculptural development that is already master of certain points of naturalistic detail but lacks as yet the capacity to integrate them into a living, organic whole. Such a stylistic analysis

[19] See notably C. R. Morey, *Early Christian Art*, Princeton, 1942, chapter II.

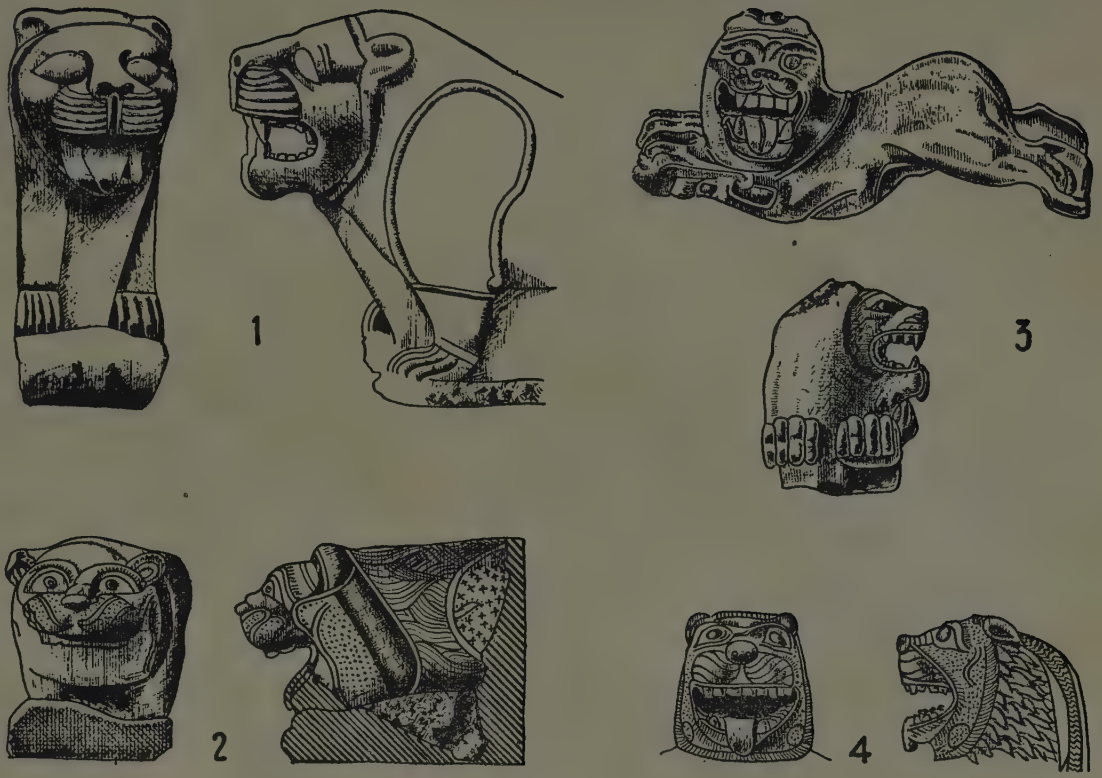


FIG. 4

1. Hittite stone lion, Sendschirli. 2. Protocorinthian plastic vase, Sparta. 3. Ivory lion, Ephesus. 4. Lion on the Macmillan (Protocorinthian) vase.

could of course equally well apply without the familiar Greco-Roman connotations of time and place.

The ' Oriental ' character of the head is a matter that can be substantiated or disproved by qualified Orientalists alone; the problem can be stated here, but it cannot usefully be discussed. It is however both useful and necessary to define the term ' Oriental '. If it be taken to mean Far-Eastern, then the possibilities would seem to be three :

(*a*) that the lion is wholly the work of Far-Eastern craftsmen ;

(*b*) that it is a classical bronze made by an artist who was familiar with, and influenced by, Far-Eastern work ;

(*c*) that it is a purely classical work, and that the ' Oriental ' features are (in this sense of the word) an accidental likeness of no historical significance.

Alternatively the term may be used to refer to the lands immediately to the east of the classical world. In this sense the Orient is an integral part of the fabric of classical history and art, and it is hardly possible to discuss the one without also considering the other. It is in the first sense alone that the possibility of an Oriental origin or of Oriental influence upon a classical workshop is excluded from consideration in the concluding paragraphs of this article. In these the writer examines the third hypothesis and tries to define in greater detail the position of the lion in relation to the history of large-scale bronze-working in the classical world.

The lion is such a familiar figure in Greek and Roman art that it is easy to forget that already in classical Greek times it was a rare beast. In the European Greek world it was limited to the highlands of Thrace between the rivers Nestos and Acheloos (**20**). Few Greek artists can have had any real contact with the animal that tradition and legend required them to portray. There are, it is true, some superlative early representations, which exemplify to the full the Greek artist's capacity to seize upon, and to simplify, the essential character of his subject. Such is the late sixth-century reclining lion at Berlin (**21**), or the dead lion from a metope of the temple of Zeus at Olympia, *c.* 465–60 B.C., now in the Louvre (**22**). But with the advance of realism during the fourth century, lack of direct observation made itself increasingly felt. The lions of the Mausoleum of Halicarnassos, *c.* 350 B.C. (**23**), even the noble figure commemorating the Theban dead in the battle of Chaeronea, 338 B.C. (**24**), bear comparison neither with their predecessors, nor with the fine horses, dogs, and other familiar beasts of Hellenistic art.

It was natural therefore that in portraying the lion the Greek artist should be guided largely by convention, and that this convention should owe much to foreign influence. The lion was a favourite subject with the artists of the ancient world which bordered Greece to the East. It is one of the recurrent themes of Hittite sculpture ; while the monarchs of Assyria, in recording their prowess in the lion-hunt, have left us some of the finest animal-portraits of antiquity (**25**). Payne, in his analysis of the sources

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[20] Herodotus, VII, 125–6 ; Xenophon, *On Hunting*, XI, 1.

[21] Weigand, *Berliner Museum*, XLVIII 3 (1927), p. 61 f., fig. 1 ; G. M. A. Richter, *Animals in Greek Sculpture* (1930), fig. 10.

[22] True, *Olympia*, III (1894), pl. XXXV, 1 ; Richter, op. cit. fig. 11.

[23] A. H. Smith, *Catal. of Sculpture in the Dept. of Greek and Roman Antiquities, British Museum*, II (1900), pp. 129 ff. no. 1075 ; Richter, op. cit. fig. 28.

[24] M. Collignon, *Les Statues funéraires* (1911), pp. 233 ff., fig. 153 ; Richter, op. cit. fig. 28.

[25] An invaluable recent summary of Hittite and related art, illustrating many lions, is that of H. T. Bossert, *Alt.-Anatolien* (Berlin 1942). The outstanding Assyrian lion-representations are in the British Museum, from the palaces of Ashur-nazir-pal (884–859) at Nimroud, and of Ashur-bani-pal (669–26) at Nineveh.

of Protocorinthian and Corinthian Orientalizing art (26), has shown conclusively that both Anatolia and Assyria made their distinctive contribution. The lion of Protocorinthian vase-painting is a Hittite beast; not indeed directly, for the most likely immediate source seems to be Crete; but the ultimate ancestry is evident. In the rare early plastic vases the likeness to an essentially sculptural prototype is still more striking (see FIG. 4). During the third quarter of the seventh century, on the latest products of the Protocorinthian style, a new formula begins to make itself felt; and in the succeeding Transitional and Corinthian styles it is established to the exclusion of its predecessor. This formula derives, along with many other motifs of the Transitional and Corinthian Orientalizing repertory, from the art of Assyria. As Payne remarks, 'it is easy enough to point out the radical differences between the Greek and Oriental work. The interest lies in the points of resemblance; and these are unmistakable' (27). A glance at FIG. 5 is sufficient to confirm this judgment. The medium of contact was no doubt the trade of Corinth in such things as Oriental textiles, perhaps also ivories, metalwork, and carved woodwork.

The relevance of Payne's analysis to the subject under discussion is that it casts light upon the use, in classical antiquity, of three at least of the conventions of sculptural detail known and used by the artist of the lion of St. Mark—the formal treatment of the mane as a series of overlapping scales or flamelike curls; the double line of curls along the back from mane to tail; and the line of curls dividing the shoulder from the ribs.

The formal scale, or flame, pattern of the mane is a convention so obvious that it is something of a surprise to note how limited at first was its application in antiquity. In ancient Egypt it was employed rarely, and then in a very distinctive form (28). In Anatolian art it appears only under clear Assyrian influence. In Assyria on the other hand it was the normal convention; and from Assyria it passed into the standard repertory of the Eastern Mediterranean. It may not be without significance that at Corinth it is found on the rare early plastic vases a decade or so before its appearance in the late Protocorinthian–Transitional painted vases (29). It was in origin a sculptural device; and in Corinthian vase-painting it was often reduced to a scarcely recognizable shorthand. In plastic wares on the other hand it long retained its original character (30). As examples of its employment in sixth-century Greek sculpture one may quote the early sixth-century lion from Perachora, now in Boston (31); the lion on the frieze from the Siphnian treasury at Delphi (32), *c.* 525 B.C.; and the lion-tomb in the British Museum from Xanthos in Lycia (33). In the absence of living models the relaxation of the convention during the fifth century was partial only and somewhat sporadic, as can be seen from the study of the many lion-types in fifth-century Greek coinage. At best it had, by the turn of the century, achieved the rather unhappy compromise with

[26] Payne, *Necrocorinthia* (1930), pp. 67–9 et passim.

[27] Payne, op. cit. p. 69.

[28] e.g. on the sphinx of Amenemhet III in the Cairo Museum.

[29] Lion-vase from Sparta, second quarter of the seventh century (fig. 4, no. 2, after Payne, op. cit. fig. 72; cf. fig. 71, the earliest of the series). The Macmillan vase in the British Museum (fig. 4, no 4), and its brother in Berlin (Johansen, *Les Vases Sicyoniens*, pl. 20, 4), are closely related to the Chigi vase.

[30] Payne, op. cit. figs. 76 and 81A.

[31] Richter, op. cit. fig. 3.

[32] *Fouilles de Delphes*, IV, I (1909), pls. XIII–XIV; Richter, op. cit. fig. 8.

[33] F. N. Pryce, *Catal. of Sculpture in the Dept. of Greek and Roman Antiquities, British Museum* (1928), pl. XVIII.

naturalism represented by the lion from Knidos in the British Museum. Elsewhere, as on the late fifth century Nereid monument from Xanthos (34), the traditional element remained surprisingly strong.

In the West the formal treatment of the mane found convincing expression in the bronzes of Etruria. The Chimaera and the Capitoline wolf are not the earliest examples of a convention which was to have a very long history in Italian sculpture. Earlier than either is the small bronze lion-cub from Sigillo, a village on the via Flaminia not far from Gubbio in north-eastern Umbria. In publishing it (35), Professor Galli has rightly noted that the pose is that of the painted lions of Protocorinthian vase-painting and that the treatment of the mane and of the dorsal line of hair is strikingly similar to that on the famous Chigi vase from Veio in the Villa Giulia Museum at Rome (FIG. 5, no. 4). It is important however to remark that the line of dorsal hair on the lion of the Chigi vase is unique to the Protocorinthian and Corinthian series ; nor does the writer know of any other instance of the use of this convention in mainland classical Greece. It is much more probable therefore that in this respect the relationship between the Chigi case and the Etruscan bronzes is that of derivation from a common source rather than of direct parentage.

This relationship emerges still more clearly from an examination of the third of the conventions under discussion, the line of hair which divides the shoulder from the ribs. This is a convention peculiar to the natural-history of Assyrian art and to its derivatives. In mainland Greek art an echo is perhaps to be seen in the formal tuft of hair at the junction of the forelegs and body on a certain number of sixth-century sculptures such as the seated lion from Perachora at Boston, the reclining lion in the Glyptotek at Copenhagen, and the lion on the frieze of the Siphnian Treasury at Delphi (36). In vase-painting however it was invariably omitted, an omission the more striking in that the shoulder-convention and belly-stripe of Transitional and Protocorinthian vase-painting is so very obviously a close derivation from the Assyrian prototype.

In Italy, by contrast, it is a striking and effective feature of at least one major Etruscan bronze, the Capitoline wolf (FIG. 2) ; and it is significantly represented in a group of exotic objects which are found in the wealthy graves of Southern Etruria in the seventh century. For lack of a better term, these objects are conveniently labelled Phoenicean, although there can be no doubt that they include the products of an area considerably wider than Phoenicea proper, comprising much of the seaboard of the Levant, including Cyprus and the south-eastern fringes of the Aegean world. Artistically, as well as politically, this area was common ground to Egypt, Assyria, Anatolia and the Aegean. With the expansion of the Greek world it became increasingly the medium through which mainland Greece and the Aegean absorbed the ideas of the Orient. It was equally, either at first or second hand, the channel by which the products of the Orient and of the Eastern Mediterranean reached Etruria.

FIG. 6 illustrates a small ivory lion-mount, one of a set of eight, from the Barberini tomb, discovered in the last century at Palestrina and now in the Villa Giulia Museum at Rome. The mane-convention recalls that on the Protocorinthian plastic lion-vase

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[34] A. H. Smith, *Catal. of Sculpture in the Dept. of Greek and Roman Antiquities, British Museum* (1900), vol. II, pl. XXVI ; Richter, op. cit. fig. 27 ; cf. also the lions on the Payava and Merehi monuments at Xanthos, Smith, op. cit. pls. VI and XIII.

[35] E. Galli. ' Il leoncino di Sigillo ', *Studi Etruschi*, XVII (1943), pp. 115–49.

[36] Richter, op, cit. figs 3, 4 and 8 respectively.

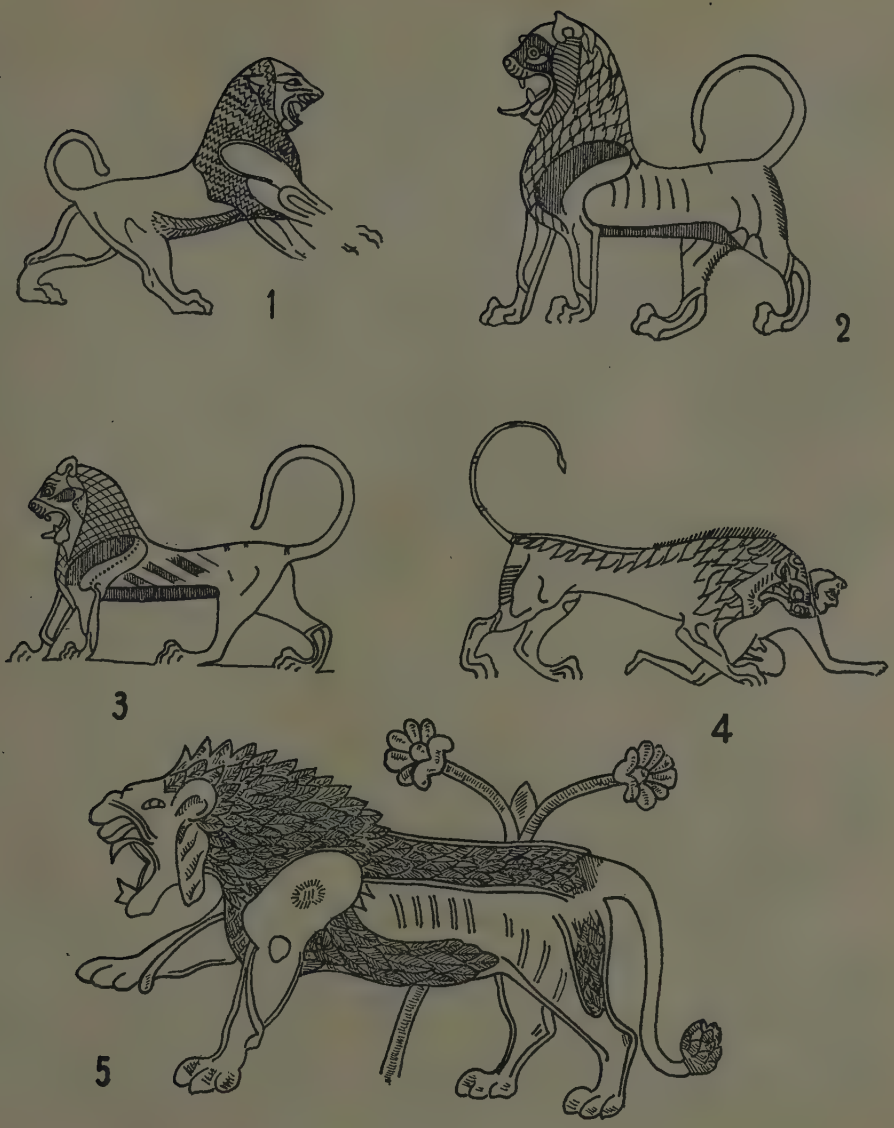


FIG. 5

1. Assyrian lion of Assur-nazir-pal. 2–3. Transition and early Corinthian lions.
4. Protocorinthian lion, Chigi vase. 5. Lion on Phoenician silver bowl, Nimrud.

from Sparta (FIG. 4, no. 2); and the shoulder-stripe is unmistakable. There are the remains of three distinct sets of small ivory lions from this tomb. The other two sets lack the shoulder-stripe, but one has an exaggerated double line of curls down the back. The shoulder-stripe recurs on a lion on one of the ivory arms from the same tomb (37). On the equally rich Regulini-Galassi tomb from Cerveteri, now in the Museo Gregoriano in the Vatican, both conventions are found, on a bronze stand and on an ivory box (38).

Circumstance has dictated that these examples should be on a scale, and in a medium, very different from that of the large Etruscan bronzes. They are moreover over a century earlier in date than the Capitoline wolf. These facts are however rather a measure of the limitations of our knowledge than a proof of actual discontinuity. The Sigillum lion-cub goes far to bridge the gap, and to suggest that however much these later Etruscan animal-bronzes may owe to Greece, they contain an element that is more directly derived from the Orient through the medium of ivory- and metal-work, and perhaps fabrics, imported from the Levant. At the end of the sixth century, perhaps even in the opening years of the fifth, it was a tradition still sufficiently alive to influence the artist of the Capitoline wolf.

If our knowledge of the early history of Etruscan sculpture in bronze is, through the chance survival of a few notable examples, demonstrably fragmentary, we plunge into still deeper waters when we turn to Greece and the Eastern Mediterranean. In mainland Greece the surviving large fifth-century bronzes are all too few; but they are at least sufficient to prove a technical competence which can only have been the result of lengthy experiment. From the preceding century even less remains, and that little so markedly less accomplished that Kluge has concluded that it was made from wooden models by means of a sand-cast rather than by the more efficient *cire-perdue* process, which (he claims) only came into use during the course of the fifth century (39). The writer is unfortunately only familiar with Kluge's main work through the pages of Casson's *Technique of Early Greek Sculpture*; and it is not a subject that can be handled in terms of easy generalities. Relative thickness of bronze, for example, though a useful general indication of technical competence, is by no means an infallible guide to the method employed. To take a well-documented example, the equestrian statue of Colleoni at Venice, cast by Leopardi in 1489 after the designs of Verrochio, is considerably more than twice as heavy as that of Gattamelata at Padova, cast under the same conditions and by the same technical process some thirty-five years before by Donatello.

Kluge's carefully argued analysis however deserves detailed examination on its own merits; and this is not the proper context. His conclusions are of immediate relevance only if we accept the assertion that 'the invention of casting bronzes of large scale or even of more than life-size must inevitably be attributed to the Greeks' (40). 'Inevitably' is a strong word, and one to be used with caution when dealing with a subject about which we really know so extraordinarily little in detail as the early history of large-scale bronze-casting in the Eastern Mediterranean. That little, so far from affording decisive proof of a Greek origin, seems rather to suggest that this may have been another of the many crafts which the Greeks borrowed in the first instance from the lands to the

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[37] C. Densmore Curtis, The Barberini Tomb, *Memoirs of the American Academy in Rome*, v, 1925, pls. 17 (ivory mounts) and 11, 3 (ivory arm).

[38] F. Poulsen, *Der Orient und die frühgriechische Kunst, abb.* 135–6 *and* 144.

[39] K. Kluge, *Jahrbuch des Deutschen Arch. Inst.*, 1929, 1–30; and *Die Antike Grossbronzen*. The charioteer at Delphi, he maintains, illustrates both technical processes.

[40] S. Casson, *Technique of Early Greek Sculpture*, p. 154.

east of the Aegean and transformed to their own purposes. The craftsmen of Samos may well have been responsible for notable technical refinements in the process of casting, and for the introduction of these processes into the Greek world about the middle of the sixth century (41); but to credit them further with having 'almost certainly' invented large-scale hollow-casting, whether by the *cire-perdue* process or by sand-casting from wooden models, seems, to say the least, indiscreet.

There seems here to be a confusion of thought, which arises from the assumption that the large Greek bronzes of the late sixth and fifth century must have developed directly out of the well-attested large bronze-plated wooden statues which preceded them. The least familiarity with the complicated processes of bronze-casting should be enough to cast doubt upon the validity of this assumption (42). Historically it may well be true to say that in Greece the large bronze-plated wooden statue preceded the large hollow-cast bronze statue; and that this parentage perhaps left its stylistic imprint. Technically on the other hand it seems inconceivable that the ability to produce large-scale hollow-cast bronzes could have been achieved in the first instance by any other method than by an arduous development from smaller to larger. The

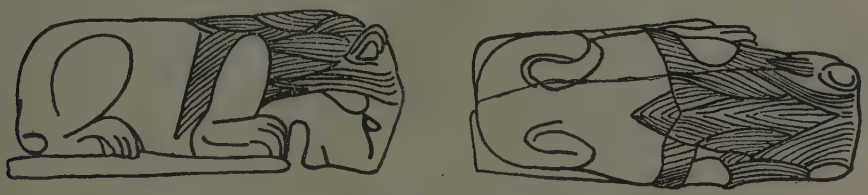

FIG. 6. IVORY MOUNT FROM THE BARBERINI TOMB, PALESTRINA, length 6.1 cm.

progress from casting small hollow-cast figures to life-size sculpture is a long one, involving notable technical refinements; and it is the first step, that from casting solid to hollow-casting even on the most modest scale, which alone makes that progress possible.

That essential step, for which we look in vain in the Aegean world before the middle of the sixth century, had already long been taken in the traditional metal-working regions of Eastern Anatolia, to the east of the upper Euphrates and around Lake Van. The accidents of history and of geography alike have combined to draw over this region and its people, the Urartu of Assyrian history, a veil which is still barely lifted. They were, it seems certain, one of the formative influences that operated upon their better-known neighbours to the south-east and to the south-west, an influence which must be ascribed in large degree to the possession of the raw materials for metal-working and the capacity to exploit them. They are known chiefly from the historical records of the Assyrians, from sporadic finds, and from the relation of such finds to the products of Assyria and of Iran. It would seem that the technique of hollow-casting in bronze was already known and used here in the eighth century. That at any rate would seem to be the date of a striking gilt-bronze figure standing, about 18 inches from the head to the knees with

[41] Pausanias VIII, 14, 8: 'The first to cast statues in molten bronze were the Samians Rhoikos, son of Phileas, and Theodoros, son of Telekles.' Theodoros worked for Kroisos and for Polykrates (*c.* 550–520).

[42] An assumption rightly avoided, though not discussed, by G. M. A. Richter, *The Sculpture and the Sculptors of the Greeks*, 1930, p. 136.

separately inlaid face, in the Near-eastern Museum at Berlin (43). Also from Van come a number of hollow-cast bronze fittings and a certain number of free-standing figures (44). Notable among these is the lower part of a divinity standing upon a horned lion, which may well, as Herzfeld suggests, have served as the prototype for the hybrid beasts of the capitals of Persepolis(45). The resemblance to the latter is striking ; and it lends colour to the overwhelming impression of metalwork captured in stone which is conveyed by so much of the Achaemenid sculpture of Pasagardae (559–550 B.C.) and of Persepolis (*c.* 520–460 B.C.), the latest and in some ways the finest flowering of a tradition which had already produced the magnificent sculpture of the ninth- to seventh-century Assyrian Empire. It is scarcely an exaggeration to say that this metalwork quality, with its firmly-drawn outline, its crisp, formal ornament, and its impression of applied detail, is the character which most sharply distinguishes the sculpture of Achaemenid Persia from the often closely related sculpture of Assyria. It is seen to best advantage in the rare figures in the round, such as the beautiful human head from the 'tripylon' at the head of the stairs between the state-apartments and the private palaces at Persepolis (46).

It may well seem hazardous to infer the existence of large-scale bronze sculpture from the evidence afforded by the style of contemporary sculpture in stone unsupported by a body of actual surviving bronzework. If one considers however the odds against the survival of a large ancient bronze, odds which in the case of the relatively thoroughly explored classical world can be checked by comparison with the literary records, it will be seen to be almost inevitable that our knowledge of such large early bronzes should be largely inferential. In the absence of chance discovery, such as that which not long ago revealed the unique cache of Parthian bronze figures in Khuzistan, described by Sir Aurel Stein in ANTIQUITY XIII (1939), 234–6, it can hardly be otherwise (47). We are lucky to possess a single example of life-size sculpture in bronze from pre-Hellenistic Iran. This is the fine early head from the Brummer collection, exhibited in London in 1931 at the International Exhibition of Persian Art (Cat. No. 3). It is at once a notable piece of portraiture and a first-class example of bronze-casting. It figures with a nice impartiality in Upham Pope's monumental *Survey of Persian Art* as Pre-Achaemenid (vol. IV, pls. 105–6) and as late Achaemenid (vol. I, pp. 353–4). In either case it is a unique survivor and an eloquent witness to the limitations of our knowledge.

The motifs and decorative conventions of Achaemenid sculpture are precisely repeated on the rare sculptural remains from Van, and it is probable that they were, as Herzfeld suggests, derived in the first instance from that region (48). Certain it is that they were evolved outside metropolitan Persia ; for, once established there, they underwent little or no positive development. If that be so, we have a valuable *terminus ante quem* for the existence of large-scale bronze sculpture in the metal-working regions of Eastern Anatolia. The Achaemenid stylistic and iconographic canon was ultra-conservative ; and it was already established when Cyrus built Pasagardae in the mid-sixth century.

[43] Lehman-Haupt, *Materialen zür älteren Geschichte Armeniens und Mesopotamiens*, 1907, p. 98 and fig. 69 ; reproduced by H. T. Bossert, *Alt.-Anatolien*, Berlin, 1942, figs. 1163–4, pl. 305.

[44] Bossert, op. cit. figs. 1163–94.

[45] A. Gotze, *Kleinasien*, 1933, fig. 17, reproduced by Bossert, op. cit. fig. 1169, pl. 307 ; and (inaccurately) by Herzfeld, *Iran in the Ancient East*, 1941, fig. 354. Cf. Bossert, op. cit. fig. 1170, from Van.

[46] Herzfeld, op. cit. pl. LXI.

[47] See also Henri Seyrig, *Syria* XX, 1939, pp. 177–83.

[48] Herzfeld, op. cit. pp. 248–9 and fig. 249 ; cf. Bossert, op. cit. fig. 1199, pl. 315.

There would in fact seem to be reasonable grounds for inferring that large-scale bronze-casting had been known and practised in Eastern Anatolia for some considerable time before the date of its first appearance in the Greek world. Greece had no direct contact with the peoples of the north-eastern Mediterranean seaboard who were the natural middlemen in all relations with Assyria and its neighbours and successors (49). Where so much fundamental research is still lacking it is hard to be more precise. Somewhere here, however, on the eastern fringe of the Greek world, where the purely classical elements of stylistic development were inevitably retarded in relation to metropolitan Greece, where on the other hand the technical achievements of near-eastern metallurgy must early have made themselves felt, there does seem to be a *milieu* to which the lion of St. Mark's might reasonably be said to belong. This is moreover the region to which the analysis of the conventions of sculptural detail seems most clearly to point.

The outstanding objection to any such attribution is of course the lack of close parallels for the head ; an objection which may be explained, but is not answered, by the absence of surviving contemporary work comparable in size and material. It is however among the Oriental or Orientalizing objects familiar to the Greek world of the seventh and sixth centuries that we find, if not detailed parallels, at least a general similarity of treatment and, in many cases, the use of the same individual conventions : the boldly modelled snouts of some of the ivory lions from Sparta (50) ; the ' applied ' eyebrows and moustaches of Achaemenid sculpture, a feature surely derived from metalwork prototypes ; the vigorous modelling of the head in so many of the early ivories. Closest in general effect, despite all differences of size and material, is a little seventh century ivory lion found at Ephesus (51) (FIG. 4, no. 3). Close in spirit, though hardly in detail, is a monstrous ivory lion from the Barberini tomb (52). These are scattered examples ; but in aggregate they are suggestive.

In conclusion it must be repeated that the hypothesis here outlined is put forward with every reserve. Fundamentally it is conditional upon the rejection of the lion as the product of an Oriental workshop. In the second place it presents difficulties—notably as regards the style of the head and the chronology of large-scale bronze-casting—which cannot be minimized, and may be decisive for its rejection. These conditions and difficulties do not however affect the essential fact that, whatever its date and origin, the lion of St. Mark is an outstanding work of art, which deserves to find an accepted place in the history of antiquity. To this end at least the present article may serve a useful purpose.

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[49] F. Poulsen, *Der Orient und die frühgriechische Kunst*, passim.

[50] R. M. Dawkins, *The Sanctuary of Arthemis Orthia at Sparta*, pls. 149–53, especially pl. 152, 2.

[51] D. G. Hogarth, *British Museum Excavations at Ephesus*, pl. XXI, 3.

[52] C. Densmore Curtis, 'The Barberini Tomb', *Memoirs of the American Academy in Rome* V, 1925, pl. 15, 1–3.

# Excavations at Olbia, Crimea*

by Henry Field

SYSTEMATIC excavations at Olbia, begun in 1896, from the very outset aroused much interest in all parts of the world. The collection of Olbian exhibits occupy a prominent place in the departments of the Hermitage, the Historical Museum in Moscow and many other museums of the USSR. Olbian collections, some of them of considerable size, are also represented in the largest museums of Germany, France, the United States and other countries.

In 1921, by decision of the government of the Ukrainian SSR, the territory of Olbia, located twenty miles from Nikolaiev, was declared a State preserve. A by-road, which branches off from the main highway leading to Odessa, brings one to Porutino village on the banks of the Bug river.

Olbia, a remote economic and cultural outpost of the Hellenic world, arose here about 2500 years ago. The banks of the river Bug (ancient Hypanis) had been long before known to the Greeks, possibly from the Phoenicians. From an aeroplane one can see this spot from the Dnieper, lying beyond the further bank of the Bug. The sandy Isle of Berezan has spread at the confluence of both these rivers, at the place where they flow into the Black Sea, the ancient Russian fortress of Ochakov. Greek merchants from Miletus in Asia Minor built a small trading station here.

At that time Berezan formed a long spit running into the sea. But later, the sea-wash eroded its connexion with the mainland and the Greeks found themselves on a barren and waterless island, and therefore had to seek elsewhere to settle. It was hardly possible to select a more favourable locality than that occupied by Olbia. According to Herodotus, nature here was very rich and the climate most wholesome.

The study of historical strata on Olbian territory has proved that before the appearance of the Miletians the native population of Olbia consisted of Scythians. The late Academician Marr considered that the name ' Olbia ' derives from the Scythian (*olba*—townlet) and had been changed to the euphonious ' Olbia ' by the Greeks.

Olbia developed rapidly and prospered. Herodotus, who visited it not less than 100 years after its foundation, speaks of it as of a large, bustling town, with highly developed handicrafts and trade. However, beginning with the fourth century B.C., first the troops of Alexander of Macedonia and later the Scythian kings continually besieged Olbia, encroaching upon its independence. Finally, about the first century B.C., the city received its crushing blow. The Getae, who had come from the west, captured the city and destroyed it. From this time Olbia never regained its former flourishing state. In the second century, Olbia fell under the domination of Rome. Under the rule of the Romans the city revived, but could never reach its former wealth. It is presumed that the final downfall of Olbia occurred during the fourth and fifth centuries. Since then no reference to Olbia is to be found in historical literature.

Minor excavations in Olbia were conducted in the middle of the last century. However, Countess Musina-Puchkina, the owner of this land, flatly refused to allow Russian archaeologists to continue this work. Not till thirty years after her death,

* This information was received through *Voks* in January 1941

was Professor B. Farmakovski able to resume these excavations. However, that which was out of reach of Russian scientists, was easily achieved by the seekers of quick and easy profits. Rumours of incalculable wealth allegedly buried in Olbia attracted numerous adventurers to this spot, who plundered the city, particularly the cemetery, which occupies a large area beyond the precincts of the city. The treasure seekers succeeded in unearthing numerous valuable objects, which, according to Farmakovski, is a ' museum of objects in a perfect state of preservation '.

The value of some of these can be judged by the fact that one glass vase was sold at auction in Germany for 18,000 marks. The boom which arose around Olbia led to various counterfeits. The so-called tiara of Saitafernes, which caused so much excitement is still fresh in our memories. The Odessa forgers so skilfully counterfeited the vase that the Louvre, despite the warnings of Russian scientists, thought it to be genuine and purchased it. Later, it was recognized as an imitation and removed.

Having put an end to the chase after sensational finds, Farmakovski began a strictly scientific study of Olbia. The excavations which had been interrupted by the beginning of World War in 1914, were partly resumed in 1920. This work was extensively developed by him in 1924. After his death in 1928 the work was taken over by a number of scientific institutions and has been continued annually. All excavated articles are handed over to the numerous Soviet museums, where they serve as rich material for historical research work.

Olbia has yielded about 75,000 objects, one half of which have been excavated during the past fifteen years. These include beautiful and rare samples of ancient art and craft : sculptures, fine metal, jewellery, pottery, glassware, etc. Before the invasion of the Getae the city had been engirdled from the mainland by strong walls with eight towers. These walls were built over ravines, which formed natural moats, and along steep descents leading down to the river. The city gates, flanked by two towers, faced the steppes, while a third watchtower was built ahead of them. Branching out from the gates, on both sides of the walls, were the poor dwellings of the artisans. The gates led to the main street of the city which forked out into two streets ; one followed along the upper part of the city, while the other sloped down to the harbour. The main artery was transected by other streets.

The city was built according to a well-elaborated plan. The main streets and squares were built up with imposing private residences, municipal buildings and temples—remarkable specimens of Greek architecture. The streets, which were comparatively narrow, were in some places paved with large, smooth flagstones, cobble-stone, or with a sort of mixture of tiles and crushed stone. Concealed drains were built beneath the gutters to carry off water from the open courtyards. The squares and cross-roads were embellished with statues and fountains.

Of especial interest were the remains of a wealthy house in the lower part of the city near the river. This resembles dwellings built during the second century on the Isle of Delos. An open court surrounded with porticoes on all sides formed the centre of the house. An altar, which appears to have been dedicated to Apollo—the principal god of Olbia—was found in the centre of the court.

Perhaps of still greater interest was the discovery of another building—a type of house closely resembling that described by the famous architect Vitruvius, and according to Farmakovski had hitherto never been unearthed. This is a two-story house with columns and entablatures. The façade gave onto a rectangular courtyard, surrounded on three sides with a colonnade. The court was paved with coloured river-pebbles laid in a beautiful carpet design. The houses of the nobility were decorated with frescoes,

red, white and yellow paintings, while the floors were laid in simple, but highly artistic ornamentation.

The excavations in Olbia have contributed extensive material illustrating its state and social organization and the life of its citizens. The social life of the city was concentrated in the public square, a considerable part of which has not yet been unearthed. The city had a theatre and possibly a school and a stadium. Inscriptions so far discovered bear witness to sports contests, whose winners were extensively honoured.

During the past few years new blocks of houses have been unearthed here. Among those dating to a later period is a large bakery consisting of twelve rooms with ovens, with special devices for grinding grain, and clay vessels (*pithoi*) for storing grain and flour. One of these has been completely preserved. Remains of a mint and various workshops have also been found. These workshops, as well as numerous household objects and ornaments, some of which had been imported, bear witness to the highly developed arts and crafts in Olbia. The remains of kitchen refuse reveal the types of domesticated animals. Thus, the Olbians bred cattle, sheep and goats, but had very few pigs and still less poultry.

A structure, which from afar resembles a small hill, towers in the upper part of the city. Its lower part is faced with perfectly fitted blocks. This is a remarkably preserved vault of a later, Roman period. A corridor leads to a rather spacious burial chamber. Unfortunately, this chamber, when unearthed, was found to be empty, probably plundered by robbers who had visited it in ancient times.

The steeply descending streets led to the harbour, which was equipped with moorings, warehouses, and ship-repairing wharves. A market was located nearby. When Olbia ceased to exist the strong river wash gradually destroyed the harbour. The Bug river flooded this, as well as the largest part of the adjacent coastal part of the city with its waters. People now bathing in the Bug, when treading the bed of the river quite a distance from the shore, frequently find remains of pottery, coins, objects of everyday-life and traces of large structures, presumably city walls. Sometimes bathers strike currents of very cold water at the bottom of the river—the ancient Olbian springs. With the aid of divers, Soviet scientists recently surveyed this flooded part of Olbia and ascertained the exact location of the harbour and the moorings. There is little doubt that the further study of this part of Olbia will yield valuable results, for it was the busiest part of the city and it was from here that it began to develop.

Olbia was one of the most important junctions of economic and cultural relations between the Hellenic world and Scythia. Small burial-mounds have been found on the steppes of the Ukraine, Don and Kuban. Some of these tumuli are Scythian burial grounds. It was the Scythian custom to place objects of every-life into the grave together with their dead. Among these objects were found remarkable works of art painted or engraved with scenes taken from the life of the Scythians. They depict certain aspects of their life and testify to the state of their culture. Some of these objects were purely Greek, others of Greek workmanship fashioned to suit Scythian tastes. Evidently they were manufactured in the Greek colonies on the Black Sea, among which Olbia occupied an outstanding place. The Scythians were greatly influenced by Hellenic culture. It has now been proved that the Greeks residing on the Black Sea, in their turn, gradually assimilated Scythian culture.

Herodotus relates that among the wealthy residences of Olbia, the palace of the Scythian king Scilla, was particularly prominent for its splendour. It was ornamented with sphinxes and griffins hewn of white marble. Scilla was brought up by his mother, who was a Greek, and he spoke Greek fluently. Leaving his attendants beyond the

precincts of Olbia, he would don Grecian robes and worship Greek gods in the city. Having been discovered in this by his fellow countrymen he was dethroned and executed. This occurred in the first century of the existence of Olbia. Later, the strict desire of the Scythians to retain their culture and religion absolutely intact from foreign influence had gradually given way to wider association with the Greeks, an intermingling which told in everyday life, art, religion, and trades.

Having become Hellenized, the Scythians were apparently taking part in the trade and crafts of the Olbians. Marriages were frequently contracted between the Greeks and the Scythians. Graves of purely Scythian character were unearthed recently in the Olbian necropolis, and only the closest intercourse between these two races could result in such close proximity of their dead.

A copy of a magnificent marble statue of a lion is at the Historical Museum in Moscow. It is remarkable for the primitive plasticity of its lines, unusual for Greek masters, and is undoubtedly due to the influence of the Scythian style. This same influence is evident in the various metal articles embellished by typical Scythian ' animal ' ornaments, which were produced in Olbia. Dionysius, relating the great fondness of the Olbians for Homer, and the interest displayed by a certain part of them in Plato's philosophy, at the same time remarks that by this period they already spoke an incorrect Greek and that both their apparel and arms had come to resemble those of the Scythians.

The question of the extent to which Hellenic influence emanating from Olbia, and other Greek colonies located on the northern coast of the Black Sea, affected the neighbouring lands is a point of great historical interest. According to Herodotus, Olbia was the starting point of a long overland route running to and beyond the Volga. But where did it terminate ? Excavations have established the extent of this Hellenic influence as far as the Volga and the Urals. However, certain discoveries in the Altai and the still more distant Mongolian People's Republic throw a new light on this question.

During 1927 an expedition in the Altai found the so-called Pazyryk burial mound. This is a grave of a nobleman of an unknown Altai nomad tribe, the mound dating to the fourth-third centuries before our era. The nature of the mound of stones over the grave, as well as the local climate, helped to form such a temperature in the grave under which everything contained therein remained in a perfect state of preservation. Buried with their masters even the bodies of stallions, their flesh, hides and the remains of food in their stomachs, were preserved. The saddles on these horses had peculiar shields on them made of hides and polished sticks. These shields had been on a comb of Greek workmanship found in a Scythian mound in the Black Sea region.

A presumption, therefore, arises, that on the eve of our era, tribes possessing either one and the same, or very similar cultures, inhabited the vast area stretching from the Carpathians to China. In the east this culture came into contact with the Chinese and in the extreme west with the Hellenic culture, mainly through the Greek outposts on the northern coast of the Black Sea, among which Olbia occupied an important place.

It would be impossible to draw a clear picture of the nature and role of Scythian culture, and to understand the source of the traces of Hellenic culture in the vast areas of western Europe and Asia, without the discovery and the study of the colonies situated on the northern coast of the Black Sea, including Olbia. In addition, Scythian culture had an influence upon the medieval culture of Europe.

# Notes and News

## ARCHAEOLOGICAL CHRONOLOGY IN SZECHWAN

West China Union University Museum

On account of the war, the interest of many scholars has been concentrated upon the culture of South-western China, especially Szechwan. Therefore, it may be worthwhile, at the happy conclusion of this world-wide struggle to review some of the work which we have been doing in the West China Union University Museum here in Chengtu.

For more than thirty years the University Museum, under the capable curatorship of Prof. Daniel Sheets Dye and Dr David Crockett Graham, has been devoted to the collection of articles of scientific value in West China, and has become a great repository of archaeological and ethnological material from this part of the world.

I was appointed to succeed Dr Graham in 1941. It was the worst of times for museum activities. War was raging on all fronts. Chengtu was perpetually haunted by enemy planes. Our treasures had to be evacuated, and a part of our galleries turned into reading rooms for refugee students. We managed to keep the door open not only for our students but also for thousands of RAF and AAF boys who were here with us.

Aside from my daily routine and war duties, I have taken part in four excavations, several reconnaissance and collecting trips, and managed to keep up with my research on the archaeological chronology in Szechwan. I take great pleasure, indeed, in summarizing it for Antiquity.

### Prehistoric Lithic Industries (1)

In the past few decades, no less than ninety ancient sites have been investigated by scholars of various nationalities. The prehistoric remains seem to have scattered far and wide in West China, and were found in different types of ancient sites. Remains on the foreshore of the rivers or small streams were by far the most common. They were camp or dwelling sites or workshop ruins. Rock-shelters and caves were occupied only very occasionally. Sites on the terraces in the river valleys were not uncommon. In the north-western part of the region these terraces are constructed in loess deposits. Surface finds were frequently found along the main routes of communication, along the valley bottoms, and more especially at points of juncture of rivers, streams or roads. A part of the material collected has been reported, especially those objects preserved in the University Museum and in the American Museum of Natural History in New York.

A close typological and comparative study of the material in these two museums revealed the fact that the major succession of prehistoric cultures in Szechwan seems to have consisted of four stages, namely :

1. Mesolithic Period (probably 5000–3000 B.C.)—characterized by some chipped stone tools which were products of either a pebble or a flake industry ;

2. Early Neolithic Period (3000–2000)—represented by some chipped-and-polished stone tools ;

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[1] Cheng Te-k'un. ' Lithic Industries of Prehistoric Szechwan '. *J.W.C.B.R.S.* (*West China Border Research Society Journal*) 14 (1942), 1–16.

3. Late Neolithic Period (2000–1200)—represented by some chipped-pecked-and-polished and some polished stone tools, which have been found to be associated with a series of pottery; and

4. Aeneolithic Period (1200–700)—represented by some highly finished stone tools and the contents of the cultural stratum of the Hanchou site.

### Ceramic Industries (2)

The collection of Szechwan pottery in the University Museum is unique. It covers all the known sites in Szechwan, and is probably unrivalled throughout the world. It may be taken to illustrate eight stages in the development of the art in West China.

The Late Neolithic implements were found to be associated with a series of pottery, consisting of cordmarked, red, black, white and grey wares. This may be called Stage One, and its date fixed at 2000–1200 B.C.

The cultural stratum of Hanchou (3) yielded a rich collection of grey and black potsherds in coarse or fine paste, which may be labelled as Stage Two, dating from 1200–700. This stratum had been intruded by a ceremonial pit which may represent an important culture during 700–500, and we have enough evidence to assume that Stage Two pottery continued to flourish in these two centuries.

Stage Three pottery may be represented by the contents of the Li-fan slate tombs (4), which belonged to 500–1. The Li-fan pottery is mostly grey or black in colour and may be regarded as a descendant of the Hanchou ware, though strongly influenced in shape by the Kansu ' prehistoric ' wares.

This is followed by another rich collection of funerary objects found in Later Han and Chin tombs (5). The industry produced also grey ware in many varieties, and the shape varied from daily utensils, bricks, tiles and coffins to models of human figures, animals, houses, rockeries and so forth.

The Stage Four pottery is definitely dated from A.D. 1–500.

Stage Five pottery may be represented by a part of the products found in the Ch'iung-lai kiln-site (6), which might have been established in the T'ang dynasty. With the improvements in the preparation of paste and the introduction of slip and glaze, the industry produced not only daily utensils, but also excellent works of art. It may roughly be dated from 501–900.

Stage Six pottery may be represented by the material recovered from the kiln-site at Liu-li-ch'ang (7). The excavation of the tomb of Emperor Wang Chien (8) has

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[2] Cheng Te-k'un. *Introduction to Szechwan Pottery*. *W.C.U.U.M.* (West China Union University Museum) *G.S.* (Guidebook Series) 2, 1945, Chengtu.

[3] D. C. Graham. ' Preliminary report of the Hanchow Excavation '. *J.W.C.B.R.S.*, 6 (1934), 114–31.

[4] Cheng Te-k'un. ' Slate Tomb Culture of Li-fan '. *H.J.A.S.* (*Harvard Journal of Asiatic Studies*) 9 (1946), 63–80.

[5] Cheng Te-k'un. *History of Ancient Szechwan*. *W.C.U.U.M.*, Monograph Series, 1 (1946), 125–42.

[6] D. C. Graham. ' Pottery of Ch'iung-lai '. *J.W.C.B.R.S.*, 11 (1939), 46–53.

[7] D. C. Graham. ' The Liu-li-ch'ang Kilnsite '. *J.W.C.B.R.S.*, 11, 36–45.

[8] Feng Han-yi. ' Discovery and Excavation of the Royal Tomb of Wang Chien '. *Quarterly Bulletin of Chinese Bibliography*. *N.S.* 4 (1944), 1–11. Cheng Te-k'un. ' Royal Tomb of Wang Chien '. *H.J.A.S.* 8 (1945), 235–41. D. Michael Sullivan. ' Excavation of a T'ang Imperial Tomb '. *Illus. London News*, April 20, 1946.

revealed that the kiln was established no later than the beginning of the tenth century. It is most interesting to note that the potters of Liu-li-ch'ang, though following the tradition of Ch'iung-lai, were very keen in imitating the famous wares from other provinces. Hence, they have produced more varieties than their predecessors. The majority of the material may be dated from 901–1300.

Parallel to the Stage Six pottery, a series of appliqué grave jars have been recovered from Sung tombs. It seems to represent a strictly local industry, producing only greyish terra-cotta ware, very rarely covered with greenish-yellow glaze.

The ceramic art of Stage Seven may be represented by two series of grave goods, usually found to be associated with dated tomb-stones from 1301–1600. The first series was probably produced by the Liu-li-ch'ang kiln, which continued into this period. It consists of mono-glazed, painted or poly-glazed wares. The blue-on-white porcelain was found in large quantity. The other series was a descendant of the appliqué jars of the preceding stage, and the vessels were more developed in shape, in glaze and in the appliqué design.

The ceramic art of Szechwan was at its lowest ebb in the last stage of its development, 1601–1900. The devastation brought about by Chang Hsien-chung, the notorious terrorist of the seventeenth century, might have been responsible for the destruction of the most of the industrial centres in this province. The factories that were being built after this were probably not in a position to compete with products of East China, and the vessels they produced were limited to daily utensils, mostly earthen- or stone-wares. The Sao-chiu-fang factory, in Lung-ch'ang is a typical example, and it is still producing a large quantity of common pottery for daily consumption.

### Metallic Industries and Others

The study of ceramic wares is the backbone of archaeology, so when we have the meter-stick of pottery in hand, the rest is comparatively easy. Most of the cultural products of this area may now be lined up against the chronology described above.

The Stage Two pottery has been found to be associated with a series of jade and stone artifacts in the Hanchou ceremonial pit, near which the ancient governor of Szechwan probably offered sacrifice to the God of the Min Mountain (**9**). It was an old belief and practice that jade was a food of the gods and it should be buried in the ground after the ceremony.

It was probably in this period, sixth to fifth century B.C. that megalithic culture made its appearance in this province. Some of these big stone remains in the form of dolmen, menhir and alignment are still in existence (**10**), and they are, no doubt, some of the most important archaeological remains in Szechwan. I strongly suspect that the ceremonial pit of Hanchou was a part of some megalithic monument.

In the Li-fan slate tombs we have found bronze objects which showed close affiliations with the Ordos bronze in the North China frontier, as well as with the metallic industry of the Chengtu plain. It was also in these tombs that glass beads of near-eastern origin were discovered, together with various imitations in stone and shell, and *pan-liang* and *wu-chu* coins.

The cave and brick tombs which contained Stage Four pottery were usually decorated with pictures executed in bas-relief on stone or brick and with sculpture in the

[9] *History of Ancient Szechwan*, 39–42.

[10] Feng Han-yi. 'The Megalithic Remains of the Chengtu Plain'. *J.W.C.B.R.S.* 16 (1945), 15–22. *A History of Ancient Szechwan*, 24–30.

round. The art resembled closely those found in Shantung and Honan. The Szechwan graves also yielded large quantities of bronze and iron vessels, utensils, tools and implements, ornaments of various description, mirrors coins and some vases made of pewter. Shell and lacquer articles were also found.

Buddhism was introduced into Szechwan probably at the end of this period. Many Buddhist cave monasteries still decorated the country-side of the Szechwan Basin. Dated sculpture from the six dynasties and the T'ang period have been found and reported, notably from Chengtu, Ta-chu and Kwang-yuan.

A T'ang dynasty brick tomb was reported to contain a female skeleton, pottery of the Ch'iung-lai type, bronze bracelet in which was encased a printed charm, probably in ancient Tibetan script, and a *K'ai-yuan* coin.

Some Stage Six pottery vessels were found in the Royal Tomb of Wang Chien, which produced a rich collection of valuable remains—wall-paintings, bas-reliefs, sculptures, bronze and silver works, iron sacrificial animals, jade carvings, and others. They are indeed the cream of Szechwan art objects.

Taoist religion was at its height in Szechwan during the Ming dynasty. Many tombs of this period which contained Stage Seven pottery seemed to have been made according to the Taoist ritual, as manifested by a large quantity of tomb-stones bearing inscriptions and diagrams of Taoist origin. Sculptures and paintings which survived from this period also show this tendency, though Buddhist tradition was the foundation of its artistic expression.

### Szechwan, a Marginal Area

In the formulation of this chronology one interesting fact about the development of this province has been revealed. Szechwan is fundamentally a marginal area, and the culture of this province has never been a product of an independent development. It has always been under the influence of some neighbouring cultures. In the prehistoric days this region was probably a wooded area, and the first human beings came probably by boat from East China and were engaged in forest clearing and in slash-and-burn agriculture.

Classical Chinese culture penetrated into this province definitely from the north. It was introduced by the Ch'in people, who began to dominate the modern provinces of Kansu and Shensi in the sixth century B.C. The sinification of ancient Szechwan began in earnest about the beginning of the fourth century (11).

The discovery of the Li-fan slate tomb brought to light another influence from the northwest, and linked the province with the famous culture of the northern Nomads. It was also in these tombs that bronze and iron tools were found existing side by side, and so far we have no archaeological material before this which may indicate that bronze tools existed before iron implements, and it seems safe to conclude that Szechwan, like many marginal areas in Asia, did not pass through a true Bronze Age in the course of her development.

The construction of brick and cave tombs in the Han-chin period followed closely the North China tradition (12). The medium was different, but the idea and the way of expression and technique were fundamentally the same. The rich collection of archaeological remains from this period should be studied as a western branch of the great artistic achievement of the Han Chinese.

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[11] *A History of Ancient Szechwan*, 43–52.

[12] *A History of Ancient Szechwan*, 143–157.

Buddhism came into Szechwan also from the North. Buddhist sculpture in the round or in bas-relief found in this area were mostly in the Lung-men and the Yun-kang style. Influence from Tibet was also felt, though slightly, during the T'ang period as indicated by the printed charm found in a grave of this period.

The great culture that flourished in China during the T'ang dynasty became the fashion of Szechwan in this period and in the succeeding dynasties. The kilns at Ch'iung-lai and Liu-li-ch'ang imitated masterpieces produced by other kilns in north and east China, including the famous tri-coloured glazed wares, a chief characteristic of the T'ang ceramic art.

The fashion reached its climax in the tenth century. The Royal Tomb of Wang Chien yielded a series of excellent pieces of sculpture. The carving of jade, the execution of the decoration in high and low relief, and the chiselling of figures in the round all followed closely the North China technique. The warriors supporting the platform of the royal coffin were no strangers to those who had visited a Buddhist site of this period in the northern provinces. The orchestra was but a replica of those that decorated the altar of the Stone Cave monastery in Kung-hsien, Honan.

The famous Taoist paintings from a temple on Mt. Omei, which we acquired last year, were dated from A.D. 1693. These pictures were painted not in the style of the Tibetan *thankas*, but rather in that of the Tun-huang wall painting.

Szechwan has also been open to influence from the south. The famous bronze drum, popularly known as an invention of Chu Ko-liang, was but an example of a non-classical Chinese art which enjoyed a wide distribution in South China as well as in Indo-China, Burma, and some islands on the China Coast. The specimens unearthed in Szechwan may be ascribed to the T'ang Period.

The highly appliqué grave-jars of the Sung and Ming periods were also related to a non-classical Chinese culture in the south. The industry enjoyed a sphere smaller than that of the bronze drum. It was distributed only in the Chinese south-western provinces.

Though a marginal area, Szechwan was by no means an inaccessible region or a pocket of degenerated cultures. On the contrary, it has been a centre of international communication. The great central Asiatic Highway branched out into the Red Basin from both Kansu and Shensi. The river Yangtse served as a line of transportation to east China and the sea. The route across Kweichou, Kwangsi and Kwangtung to the South China Sea was open for trade and commerce. Nor was the mountainous region to the south-west a barrier. Over the treacherous mountain paths of Yunnan, Burma and Tibet, the products of ancient Szechwan reached India, and went from there to Bactria in Central Asia centuries before the Christian Era (13). Therefore, the province of Szechwan, a virgin field in archaeology, should become an important station in the study of eastern Asia.

CHENG TE-K'UN.

## ARCHAEOLOGY AND THE NATIONAL AIR-PHOTOGRAPH SURVEY

The Air Ministry's decision to undertake an Air Photograph Survey of Great Britain is of epoch-making importance for archaeological research in these islands. While the survey has already made good progress and is scheduled for completion by the end of 1947, the all too familiar shortages of men and materials restrict, for the present, the distribution of the results to a limited number of Government Departments for whose

[13] Cheng Te-K'un. 'An Early History of Szechwan'. *J.W.C.B.R.S.*, 16 (1945), 9–12.

use the survey has been specifically designed (1). But if there is no immediate prospect of this material being available to students of archaeology it may not be out of place in a 'Planning Age' to outline the main features of the survey and to consider the potentialities of an Archaeological Air-photograph Library, the eventual creation of which can now be regarded as inevitable.

The basic scale of the survey is 1/10,000 or approximately six inches to the mile. While larger scales are occasionally available for towns and development areas, these are rarely likely to be of interest to the archaeologist whose main concern is with the open spaces, and consideration is therefore restricted to the basic scale. The photographs present a vertical or 'bird's eye' view of the ground and are printed at the contact size of 8½ inches by 6½ inches. Each print is provided with a titling strip recording *inter alia* the number of the sortie, the date when it was flown and the serial number of the print, while further information (e.g. the time of exposure, the height of the aeroplane, and the focal length of the camera) is contained on the map overlay (or plot) which accompanies each sortie and shows the exact area covered by each print or group of prints. In view of the relatively few perfect days for air-photography last summer, it is only to be expected that the prints should reveal considerable variation in quality, but the general level is high, and, where defects exist, owing to cloud or camera failure, we may assume that the affected area will be reflown. Air-photographs of this type are familiar to all military photographic interpreters (whose ranks embodied a high proportion of archaeologists during the recent war), and represent the most satisfactory compromise yet evolved between the opposing claims of economy in materials and the interpreters' need for as large a working scale as possible.

In the past the air-photographs used for archaeological interpretation and illustration in this country have been single prints giving a vertical or oblique but essentially two dimensional view. A few German anaglyphs which give stereoscopic relief when observed through coloured spectacles were published in *Luftbild und Vorgeschichte* (2) but the technique is not entirely satisfactory and has not found favour in England, presumably owing to the high cost of preparation and printing. The superb illustrations in *Wessex from the Air* represent the peak of achievement in two dimensional reproduction, in comparison with which it must be confessed that single prints from the present survey are inferior for the following reasons :—

(1). The most important factor in determining the amount of archaeological information which can be gleaned from an air photograph is obviously the scale of the photograph, and exhaustive experiments by Crawford and Keiller proved conclusively that the best results, both for interpretation and reproduction, are obtained at scales not smaller than 1/6,000 in the case of the larger prehistoric hill-forts, increasing to between 1/2,500 and 1/3,500 for lesser earthworks and crop-sites. *Ex hypothesi*, therefore, a basic scale of 1/10,000 is bound to be a handicap to archaeological interpretation ; and so it proves in fact. While general surface indications of Roman roads, camps, and signal stations, native forts, linear earthworks, terraces, village sites and even simple enclosures are all faithfully reproduced on the survey, the amount of detail revealed to the naked eye, on a single print, is in most cases much less than can be seen on the ground. Small cairns and stone

[1] e.g. The Ordnance Survey (for map revision) ; the Ministry of Health and the Dept. of Health for Scotland (for Town Planning) ; the Ministry of Transport (for Road Engineering), etc. The writer is indebted to the Dept. of Health for Scotland and in particular to Mrs J. K. S. Petrie for information about the survey and access to the Scottish photographs received to date.

[2] pp. 73 and 81.

circles, and standing stones appear at best as indeterminate specks, while the chances are that crop-sites will either escape observation altogether or will be meaningless unless their pattern is unusually perfect.

(2). The time and date at which the sorties are flown, again factors of prime importance to the archaeologist, are alike arbitrary. While the best time for photographing surface remains is either at sunrise or sunset, when the low sun lengthens the shadows, the current sorties have not only been flown at all intermediate hours of the day but, one suspects, dawn and dusk photography have been deliberately avoided since long shadows are a serious obstacle to normal survey purposes. Moreover, as all students of the subjects are aware, the effect of crop markings depends not only on the season and the nature of the subsoil, but on the type of crop sown, and it is too much to expect that photographs taken for other purposes and ignoring all these considerations will yield the fullest information.

If this were all that could be said about the survey, almost its only archaeological use—though an extremely valuable one—would appear to be as a source for the discovery of military or habitation sites, or roads, whose remains, though visible on the ground, have not yet been recorded for lack of field work. While the results might easily be impressive in the treeless Northern hills and in Wales, where the abundance of the remains, coupled with their distance from the beaten track, offer a rich harvest, in Southern England, where field-work has been incomparably more intensive, the crop of new discoveries is bound to be leaner. Furthermore, in view of the scale difficulty, and the fact that, as Hart has said, ' the examination of a single photograph for detail is like going about with a shade over one eye ' (3) any such discoveries would require to be verified and amplified by ground check.

Most of the above limitations are, however, cancelled by the fact that the survey is designed to produce stereoscopic photographs. This is not the place to consider the methods by which such photographs are obtained, nor to describe the technique of stereoscopic interpretation ; suffice it to say that, although practice is required to make a skilled interpreter, any one with normal vision can master the principles involved in a few hours, while an efficient hand stereoscope, of the type used by military interpreters, is both cheap and simple to construct. To the uninitiated the first sight of a well-preserved prehistoric hill-fort under the stereoscope is as magical a vision as that which awed ' stout Cortez ' and his followers. Here, however, we are concerned not with ' wild surmise ', but with concrete possibilities : and the point to be made is that, once the survey has been completed, it will be open to any student having access to an air-photograph library to obtain, with no more effort than is required to consult a map, a plan view in three dimensions of any free-standing archaeological site in the country.

The advantages of stereoscopy are manifold. In the first place by using the normal hand-type of stereoscope with magnifying lenses the scale of 1/10,000 is practically doubled, thus bringing the survey within the favourable limits deduced from Crawford and Keiller's researches. Secondly a wider scope is offered in regard to lighting conditions, since the image will in any case appear in relief, and faint shadows are all that is required to indicate mounds and ditches. Thirdly a three dimensional picture is an enormous aid to interpretation. Features which on a single print can easily be confused (e.g. ramparts and ditches) reveal their identity at a glance ; low mounds which even at sunset would not cast sufficient shadow to be distinguished on one photograph can be detected under the stereoscope ; and the disentanglement of super-imposed or

[3] *Air-Photography Applied to Surveying, p.* 26.

widely dispersed remains is greatly facilitated. Finally the tactical importance of site, whether the subject be a Roman signal-station or a prehistoric hill-fort can be appreciated at a glance, and far more effectively than by the more cumbersome methods of contouring and elaborate textual descriptions.

It remains to outline some of the practical uses of the survey for archaeological research. Clearly it is indispensable for all public bodies concerned with the location, record, and preservation of national monuments, e.g. the Archaeological Branch of the Ordnance Survey, the several Royal Commissions on Historical Monuments, and the Ancient Monuments Department of the Office of Works. To give an example of what can be achieved by this means the writer discovered, in the course of a few hours' examination of the prints, no less than four prehistoric forts and thirty-two homesteads in two Roxburgh parishes which otherwise would still be unrecorded. By the aid of simple devices such as the Leitz measuring magnifier sketch plans of such sites, accurate enough for most purposes, can be prepared direct from the photographs without the labour of a field survey, and their location, which is often difficult to fix from ground observation in featureless moorland country such as the Cheviots, can be quickly and accurately pin-pointed by relating the photograph to the map. In the same way the various classes of sites which on the Ordnance Survey maps are lumped together under the generic and often misleading title of ' Forts ' can be separated into their constituent types, while areas ear-marked for afforestation or commercial exploitation can be rapidly ' vetted ' by the appropriate authority to detect the presence of monuments which, because they are omitted from the Ordnance Survey maps, would otherwise be engulfed without resistance.

Apart from their departmental use, stereoscopic photographs would be equally valuable to university teachers for illustrating and comparing types of sites, to archaeological societies engaged in regional surveys, and to individual students working on particular lines of enquiry, whether the subject be linear earthworks, agricultural systems, native settlements, or the outstanding problems of the Roman occupation of Britain. (4) The day will come when the stereoscope will be regarded as indispensable to the archaeologist as is the telescope to the astronomer. Then we may look forward to having our archaeological reports illustrated not by two dimensional pictures or anaglyphs but by annotated ' stereograms ' which appear in relief when viewed through the stereoscope. But that is perhaps overstepping the limits allowable to the most licensed Planner.

KENNETH STEER.

[4] For an admirable summary of the *lacunae* in our knowledge of Roman Britain, which air-photography may help to bridge, cf. Richmond, *Journal of Roman Studies* XXXIII, 45 ff.

NOTE. The defensive rampart on Arthur's Seat is shortly to be published by Mr R. B. K. Stevenson who first identified it on the ground.

# Review

EARLY CELTIC ART. *By* PAUL JACOBSTHAL. Vol. I: *pp.* XIII, 242: *text and indices*; Vol. II: *Plates* 1–279. *Oxford University Press.* 10 *guineas.*

The book in the first place is beautifully produced, showing little if any evidence of the rule of austerity to which we have become accustomed in this as in so many other matters. But were the Press quite clear about their objective: was their aim a piece of good book production to be handled by the few; or did they intend it to be used by students; and if by students, by what kind of student? In the volume of plates ease and convenience of handling have been sacrificed to appearance. Beautiful photographs —and many of these are first-rate—are one thing; but if they are to be used and not merely looked at something more is called for than a bare reference-number which has to be pursued in another volume. The products of the Keltic craftsman do not belong to the loftier realms of art, in which they might safely be left to speak for themselves. Except when the purpose of a particular specimen is obvious it is often difficult by merely looking at the photographs to decide how large the original may be—the more so because the monumental character of some of these small works is quite remarkable. For the immediacy of an aesthetic judgment as well as for less exalted purposes some quick way of judging scale is essential. The use of the plates could have been rendered infinitely easier if a place could have been found for a brief caption naming the object and its place of finding and giving one dimension. This could surely have been done without spoiling the appearance of the page.

The existence of this volume of plates emphasizes anew the importance of a matter of domestic archaeology which was previously referred to by the reviewer in ANTIQUITY in 1935 and more recently discussed by Sir Cyril Fox elsewhere: that is, the need for compiling a corpus of Keltic art for Britain.

The general excellence of these photographs is unquestioned. They are least successful where high relief and complicated planes produce dense shadows or pronounced high lights. In extreme cases the result is meaningless for any attempt to determine the *motifs* used, or even sometimes to understand the form of the object itself. This is no criticism of Dr Jacobsthal, whose achievement in assembling such a collection in the face of the difficulties which he outlines in his preface is stupendous. But it carries a lesson for him who undertakes the task in Britain—the not un-obvious one that while the camera never lies it may frequently fail to tell the truth; and that what is really required is a combination of photography and line or other drawings in which the treatment of each object is considered on its merits. Apart from the Grammar of Ornament (which is a different matter) the few drawings used in this book are rarely satisfactory—this again is not Dr Jacobsthal's fault—but they emphasize that when the work comes to be done in Britain a key position in it will be occupied by the draughtsman-artist who produces the drawings. I say 'draughtsman-artist' deliberately because a combination of two sets of attributes, backed ideally by some knowledge of the archaeological setting, is required: the accuracy of the one, and the other's appreciation of the subtleties of line and plane, of surface-texture and the rest. There is little sign of such a star in the archaeological firmament at the present time, but when he appears there is much for him to do.

Turning now to the text, rarely in archaeology can there have been a more difficult book to read. This is not due to the fact that Dr Jacobsthal has had to write in an unaccustomed language : his command of written English is a remarkable achievement which will receive unstinted praise from a people who suffer as a whole from a notorious lack of application in the matter of mastering foreign languages.

The difficulty lies rather, first in the general arrangement of the work, second in the handling of the more mechanical details. As to the first, the writer plunges us at once *in medias res* with a chapter on the Keltic artist's treatment of the human subject, not the most important aspect of the art, though it is not without a special interest for the heightened emphasis which it gives to the contrast between the spiritless imitation of the classical and the more vigorous barbarian element, with its vital sense of caricature and feeling for the grotesque. Other sections of similar character follow, and it is only with Chapter 5, in which Dr Jacobsthal outlines his chronology, that all that has gone before, with its strongly stylistic basis, is drawn together and given shape within a definite scheme. And unfortunately, as if unmindful of this, Dr Jacobsthal at times uses his style-terminology in the earlier sections when it is still unexplained, thus further confounding his reader. I think I see his purpose : it is, if I understand him aright, to take us along the paths which he had already trodden and to lead us to the conclusions to which he himself had been drawn in the process. But the writer has a familiarity with his country which he ought not to assume in his reader, who needs clear sign-posts and will benefit still more from an outline of the course to be taken before the journey starts. A reversal of the present arrangement or drastic modification of the earlier part of the text would have made an admittedly difficult subject much more readable than Dr Jacobsthal has allowed it to be. The loading of the text with references only adds to the hardship. That there should be many references in a work of this character is necessary and desirable, and all students of the subject will be grateful to the writer for thus placing at their disposal his vast knowledge of the subject and its literature. But the references, abbreviations and all, break into the continuity of the writing sometimes for lines at a time ; and to make matters worse the normal practice of italicizing or otherwise differentiating publications has been discarded, with the result that the reader's attention is continually withdrawn from the subject while he separates mentally abbreviations, letters and numbers from the essential text.

In short, Dr Jacobsthal has turned what should have been a delightful series of essays of the greatest interest and value into a tedious struggle with his text, and this only because he has overlooked the need for preliminary editing. This is the more unfortunate because, as I have said, his command of the English language is so very good. His learning also is immense, enabling him to range with facility over the greater part of the ancient world and to adduce parallels and resemblances for the phenomena of Keltic art from many quarters ; while his judgment in the appraisal of individual objects and their characters usually impresses by its rightness.

Some at any rate of these criticisms are symptomatic in their various ways of a more fundamental cleavage between the anthropological and the stylistic schools of thought. The writer of this review, belonging to the first, harbours serious doubts as to whether any art of the type here dealt with can be properly explained when it is lifted out of its cultural context and is divorced from the time and conditions of which it is the expression. Certain it is that its full significance can only be brought out if it is seen against the pattern of contemporary historical and geographical trends.

Dr Jacobsthal frankly admits his indifference towards these things. He splits associations and pays little attention to the external archaeological evidence in favour

of the internal evidence of style, the uncertainty of which, in matters of dating and the like, is notorious. The objects in his catalogue are even labelled in terms of the collection which contains them, rather than of their actual provenance. No maps enliven or inform the geographical aspects of his work, whether to define distributions or to lighten the labours of the reader who has no sufficiently detailed atlas of Europe to hand.

But I repeat that such omissions are deliberate and that Dr Jacobsthal had a clear purpose in his mind. His method has been to work entirely from the objects themselves, by the detailed pursuit of *motifs* to their sources through their different connecting links. The result is of definite value, for from it emerges naturally the three-fold stylistic division into Early, Waldalgesheim and Plastic phases which cut across the previously accepted classifications of the continental Iron Age. In addition, much light is shed on the manner in which classical and other elements of form and ornament reached Keltic hands, there to undergo their transformation : Dr Jacobsthal argues, for instance, that many of the Greek elements came, not direct, but by way of Italy.

Such conclusions, achieved by the study of the relevant evidence, are valid enough for the art on which they are based : outside that field confirmation must be sought from other sources, and adjustment may at times be necessary. This is true of questions of chronology, in which once again it is difficult to escape from the criticisms already made of the purely stylistic approach. Inevitably, Dr Jacobsthal's dating has a limited application, since it does not even cover the full span of the time in which the Kelts emerge clearly as an important element in prehistoric Europe : what, for instance, happens to the ' pre-Early ' phase of Keltic history which is represented by the Hallstatt period but finds no place in his art-survey ? He occasionally recognizes the value of typology as a dating medium ; and just as the truth about Keltic chronology as a whole will not be attained until every aspect of the period has been weighed, so we are entitled to suspect that at least the non-stylistic aspects of the art may undergo modification when they have to rub shoulders with conclusions derived from the study of other manifestations of contemporary culture.

When all is said, however, the debt to Dr Jacobsthal remains a very heavy one and it is perhaps unreasonable to bewail his failure to produce the book which he on his own statement did not intend to write. Dr Jacobsthal has given us an indispensable work of reference which is packed with erudition and brings together a mass of material which hitherto has been inaccessible to most students. We should be grateful for this and congratulate him on his achievement and on the determination and persistence which made it possible.

W. F. GRIMES.